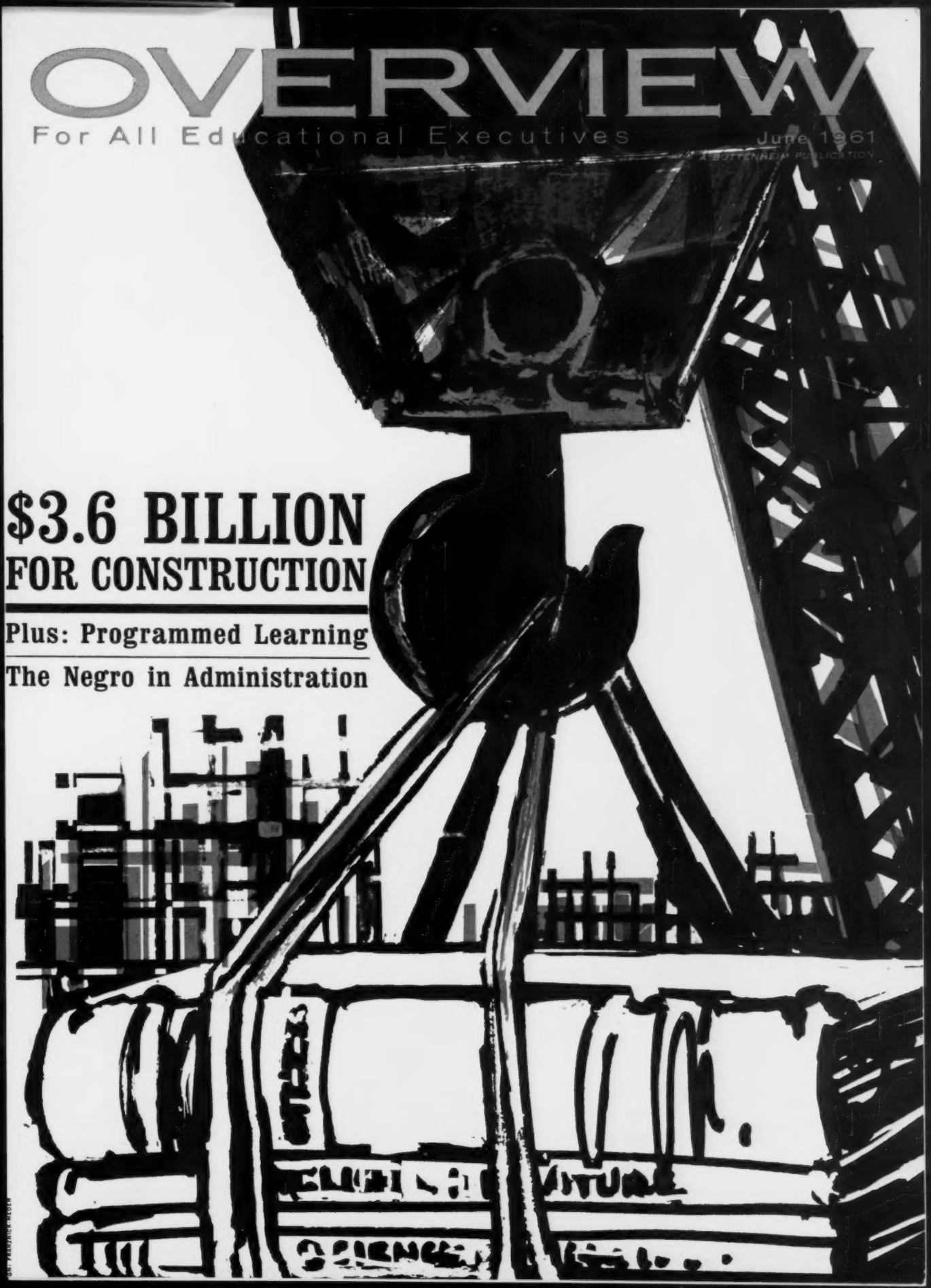
OVERVIEW

For All Educational Executives

June 1961

A BOTTENHEIM PUBLICATION



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Here is the most teachable typewriter ever made . . . the new Compact 200 by Smith-Corona. It is compact in appearance and in fact . . . and sensibly priced at about what you'd expect to pay for a manual.

The Compact is a full-featured electric office typewriter, yet it takes up no more space than a manual. Here in one compact package you get a teaching tool with a full-sized electric keyboard . . . full-sized carriage with automatic return . . . automatic repeats. There are no dual-purpose keys or hidden controls to confuse the student. No gadgets or unnecessary extras. And no discipline hazards. The Compact 200 is "all business."

Of course, it's important today to teach **electric** typing, because modern business calls for typists familiar with electric machines. And in school or out, there is no electric typewriter more economical, more efficient than the new Smith-Corona Compact 200.

To see it at work in **your** classroom, call your Smith-Corona representative. And ask about the complete portfolio of teaching aids available.

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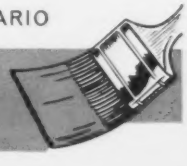

the paint of professionals for over a century

LETTERS

"Staggering" Recruitment

Parma's field recruiter ("Recruiting the Faculty," May OVERVIEW) must burn out one camera and one dictating machine a week. I, too, am staggered by his "staggering" task.

At Parma, Ohio, they need 125–175 new teachers each year. . . . Our friend interviews annually "over 200,000 candidates." Now for a little elementary arithmetic:

He interviews 548 candidates every day.

He interviews 46 candidates every hour. He allows each candidate about 1⅓ minutes.

He has to hustle because he has an average of 1,143 candidates for each job and we gave him no time allowance for travel to cover his "seven-state area."

What a man!

NILS G. SAHLIN, President, Quinnipiac College, Hamden, Conn.

• *Ed.: Typo at the source of our information gave us two too many zeros. Parma's recruiter interviews only 2,000 candidates annually. But further arithmetic shows that, reducing his work week to 35 hours, he* still *sees an applicant every hour. Quite a man indeed!*

Prestigious

. . . The review of *The University and World Affairs* [*Executive's Bookshelf*, March], characterizes the committee [of authors] as "prestigious and hard-working." Being curious about the word "prestigious" we consulted the dictionary which listed these meanings: "practising juggling or legerdemain; cheating; deceptive; illusory."

We doubt whether this was the idea of the committee which the reviewer wished to convey and whether the committee would be flattered by this description of it. . . .

J. F. K. ENGLISH, Deputy Minister and Superintendent, Department of Education, Victoria, B. C.

• *Ed.: Our unabridged Merriam-Webster International Dictionary, second edition, defines "prestigious" also as "having or manifesting prestige," which was our intended meaning.*

Bond Box

. . . One of the interesting features in OVERVIEW is the monthly box headed "Representative Bond Issues." . . . It would interest me greatly to know whether the bonds listed in this box are proposed issues which have not yet been voted on by the citizens of the communities and whether they are actual issues of bonds which are being offered as the result of the authorization by the communities. . . .

F. S. LAFFER, Manager, Special Services, Cleveland Graphite Bronze, Ohio

• *Ed.: The listings are actual bond sales. The communities approve the offerings before they are sold. We do not pretend that this a complete record; hence, the word "representative" is used. We show a broad picture of sales trends in school and college building, as well as current interest rates. We have amended the heading to clarify this point.*

Dutch Elm

. . . We note with interest the article on Dutch Elm disease [April OVERVIEW]. . . . The photograph shows a school designed by us—De-

OVERVIEW

For All Educational Executives

A Buttenheim Publication

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May has been . . .

. . . A "heady" month for OVERVIEW staffers with the good news that we can number a Pulitzer Prize winner among our former employees. Harper Lee worked with our Dr. Walter Cocking some years back, and we have sent her an open invitation to an honorary luncheon when next in New York to collect royalties on *To Kill a Mockingbird.*

OVERVIEW itself received recognition at the annual Art Directors' Show in New York for "outstanding cover design" on the November issue. That same issue carried an article by Bill Leonard of CBS-TV on what Trujillo's police state has done to education in the Dominican Republic. The Overseas Press Club of New York has given Mr. Leonard its award for the full documentary film on which he based his article for us.

And I anticipate both national recognition of and unprecedented requests for reprints of our comprehensive report on teaching machines in this issue.

Donald V. Buttenheim

Publisher

forest School in Council Bluffs, Iowa. Our inquisitiveness leads us to wonder who wrote the article and from whence the photograph was obtained?

ALEX WEINSTEIN, Steele, Sandham & Weinstein Co., Architects, Omaha, Neb.

• *Ed.: This was a staff-written article. Our art director chose the photo from our files because the tree was in the foreground, with an attractive school building to the rear.*

Profile

Let me commend you heartily on the two-page spread entitled "Profile of the AASA" in your April issue. It is an excellent summary of the history, development, and aspirations of the Association. . . .

NATT B. BURBANK, Superintendent of Schools, Boulder (Colo.) Valley Public Schools, and AASA vice president

Community College

. . . I was particularly interested in Damon D. Reach's article, "Make Way for the Community College" [April]. Recently I introduced a bill (S. 1562) to aid these colleges when they are not a part of the secondary school system or not giving courses of less-than-college-grade. I have enclosed a copy of the bill for your perusal and would welcome any comments you might have on it.

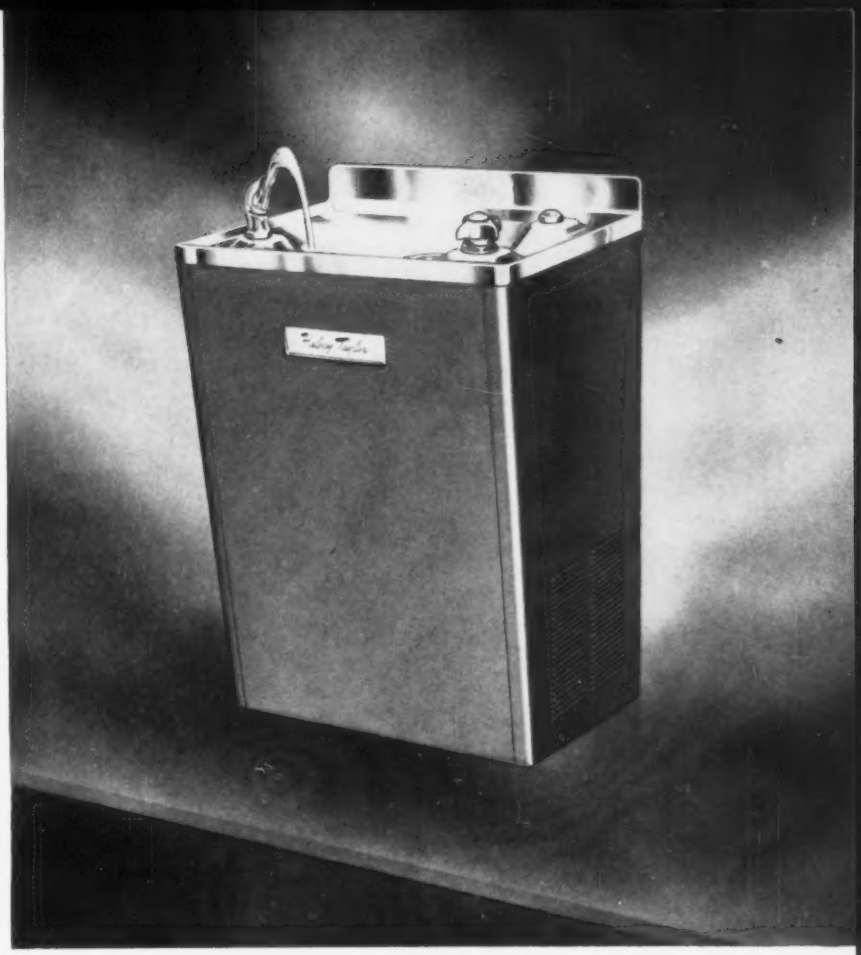
BENJAMIN A. SMITH II, Senator from Massachusetts (President Kennedy's replacement in the U. S. Senate)

Boy in Photo

I am a Pakistani student at The Ohio State University studying for a Ph.D. in educational administration. I have been subscribing to your esteemed periodical for one year. OVERVIEW is certainly an educational leader. This was the first educational journal I got my hands upon when I came to the States.

You may be pleased to know that I am that bearded student who is shown talking to President Herman Wells in a picture on page 80 of the April issue ["White House on Campus"]. . . .

SHAHIRUDDIN ALVI, Columbus, Ohio



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Write for latest catalog, or see Sweet's or the Yellow Pages

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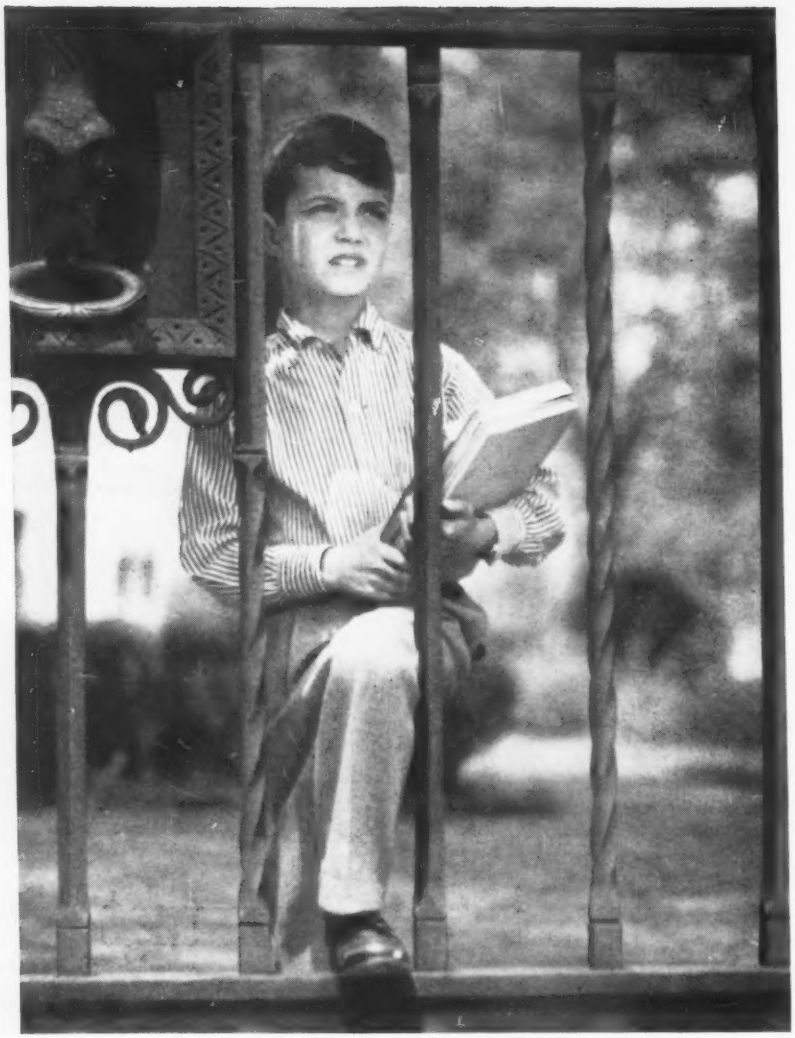

HOW MANY LIKE HIM WILL YOUR SCHOOL LOCK OUT?

Some Schools and Colleges are turning away a third of the students who come to their gates.

Others turn away a half.

And there are some who admit they can take only a tenth of those who apply for admission.

The reasons are usually the same: "Not enough money, not enough faculty, not enough space!"

Does your School need help? To raise money to solve growth problems calls for more than passing the hat among the alumni. It needs careful study and long-range planning. And since 1913 the AMERICAN CITY BUREAU has helped solve money-raising problems for Educational Institutions, both large and small.

Without obligation, one of our experienced Field Counsellors will be glad to make a Study of, and prepare a Plan to meet *your* special problems. Write our office nearest you today!

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OVERVIEW

For All Educational Executives — *Vol. 2, No. 6* — *June, 1961*

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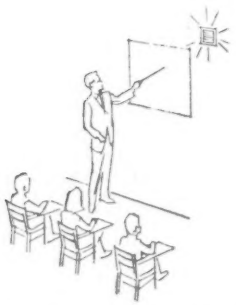
8 ways to enrich school curricula and improve administration

...through an economical sound-communication system

The console shown here is the central control of an Executone sound-communication system for an average-sized K-8 or secondary school. Located in the General Office, it handles switching, programming, transmission and power amplification for all the services described below—and others that your special requirements may suggest. Its 5-channel capacity eliminates the need for more than a single conduit for signals or communication between any two points in the system. Identical functions are available in a vertical console, for use where office space is at a premium.

Supplement the teaching program with sound



Classroom audio-aids can give students access to sources of important teaching materials . . . can place each class in closer relation to the school and the world around it . . . can help develop each pupil's critical faculties. Leading educators value the availability of:

Radio broadcasts: speeches; music; coverage of special events; interviews; important dramatic presentations; sessions of Congress; etc.

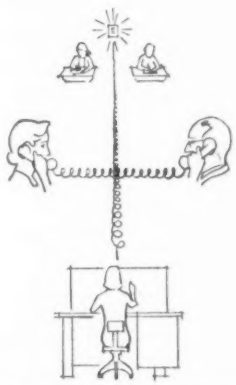
Recordings: from an ever-increasing fund of educational material on tape and discs.

Transmissions from other parts of the school: student musical programs; sports events; etc.

Recording and play-back facilities: for classes in choral and instrumental music; language and speech courses; drama workshops; etc.

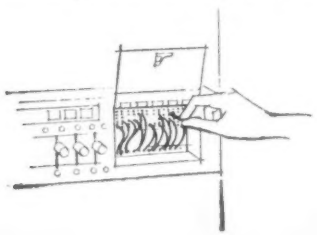
All these audio-aids can be supplied by a single Executone classroom reproducer . . . the same instrument that handles time signal, alarm and intercom functions. With a standard Executone system, any combination of rooms—chosen by selector-switches—can receive either of two simultaneous sound transmissions. Reproduction is of unusually high quality. Where recording and play-back are desired, rooms need only be supplied with microphone and tape-deck jacks. Amplification takes place at the main control console.

Speed administrative action: relieve over-burdened staff



Freedom to teach—and to work more productively—is one of the best answers to the chronic shortage of teachers and administrative personnel. Time savings increase in direct proportion to the staff's communication capabilities. Today, these can economically include: A) 2-way electronic voice intercom . . . between the office and any classroom . . . with complete privacy safeguards. B) Private-line room-to-office and room-to-room intercom . . . with call origination from any point. The Executone system offers all the above, providing 2-way remote-reply intercom through each classroom speaker . . . optional private-line handset communication using an independent channel carried by the same wiring.

Save money & space in providing variable time programs

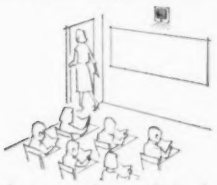


Classes with varying time requirements need no longer be subject to an inflexible set of signals. But conventional time-programming equipment—including independent crossconnect panels, relay racks, classroom buzzers and wiring systems—is bulky and expensive.

The Executone system includes a remarkably compact, easily accessible peg-board programmer—which allows each classroom to be placed on any one of six different time programs within seconds. This function is built directly into either standard console! The costly conventional system is eliminated.

Circle **OV-107** on reply card, last page

Preserve student discipline during unsupervised intervals



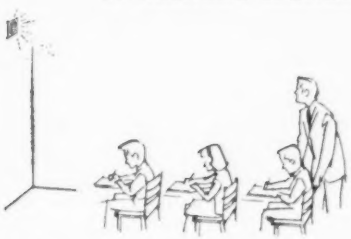
When teachers must leave their classes, the maintenance of discipline usually depends on the presence of a substitute. Faculty members may now be relieved of this non-productive extra duty. Unattended students can be monitored from the Office—through the Executone speaker—and notified by its open-line signal light that they are under remote supervision.

Control student transportation

Teachers find it especially difficult to keep order—and prevent delays—when restless students must await loadings of homeward-bound school buses. This condition is relieved when children are permitted to play freely—until summoned to the loading area in proper groups and directed to their buses.

This can be achieved through an inexpensive adjunct to the Executone system: a microphone jack at the loading area and speakers at loading and congregation areas. Both microphone and speaker wiring run in the same conduit. The amplifiers at the main console are utilized. Any available microphone can be plugged in at dismissal time.

Preserve the continuity of classroom activities



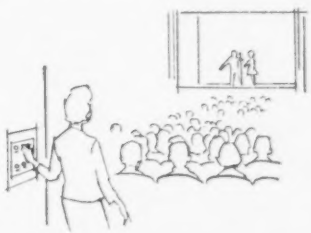
Communications in the modern school go a long way toward assuring uninterrupted class activities. But care must be taken that the facilities which make this possible are not themselves a disruptive influence. This is the case where calls make it necessary for teachers to drop what they are doing, to approach or handle equipment . . . or where a call interrupts a sound transmission.

Executone removes both of these contingencies. Through-the-speaker calls, for brief conversations, can be answered by the teacher from any point in the room—without raising her voice. And use of the optional handset channel for longer conversation prevents interference with concurrent sound programs.

Prevent confusion and panic in emergencies

Leading administrators have long felt the need for greater control of student bodies in emergencies. They seek alarm signal facilities to augment standard fire alarm systems—for such special contingencies as air raids. To control student movements in critical situations, they wish to make it possible for any staff member to broadcast voice instructions—without having been trained in the use of sound equipment.

In the Executone system, the same components used to produce time signals will also provide supplemental alarms. Executone furnishes duplicate signal generators—for fail-safe standby duty. For follow-up voice instructions, after an alarm, a staff member need only touch the 'emergency' bar at the Executone console. This overrides all other transmissions . . . allows him to speak immediately to the entire student body.



Provide quality-controlled sound for audience activities

No audience facilities are so intensively used as those in the modern school. Auditoriums and gyms serve not only during the school day—but also for adult and community activities . . . for socials and special events. Sound reinforcement equipment must be designed to high standards. And controls must be efficient. Conventional microphone mixing units—because of A-C power, ventilation and space needs can seldom be situated where they do most good.

An Executone system provides not only sound reproduction of highest quality, but also new flexibility in the location of controls. Transistorized preamplifiers and mixers are compact enough for concealment anywhere . . . have no special installation requirements.

Executone manufactures School-to-Home telephone equipment for shut-ins.

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☐ I would like detailed literature on sound and communication systems for schools.

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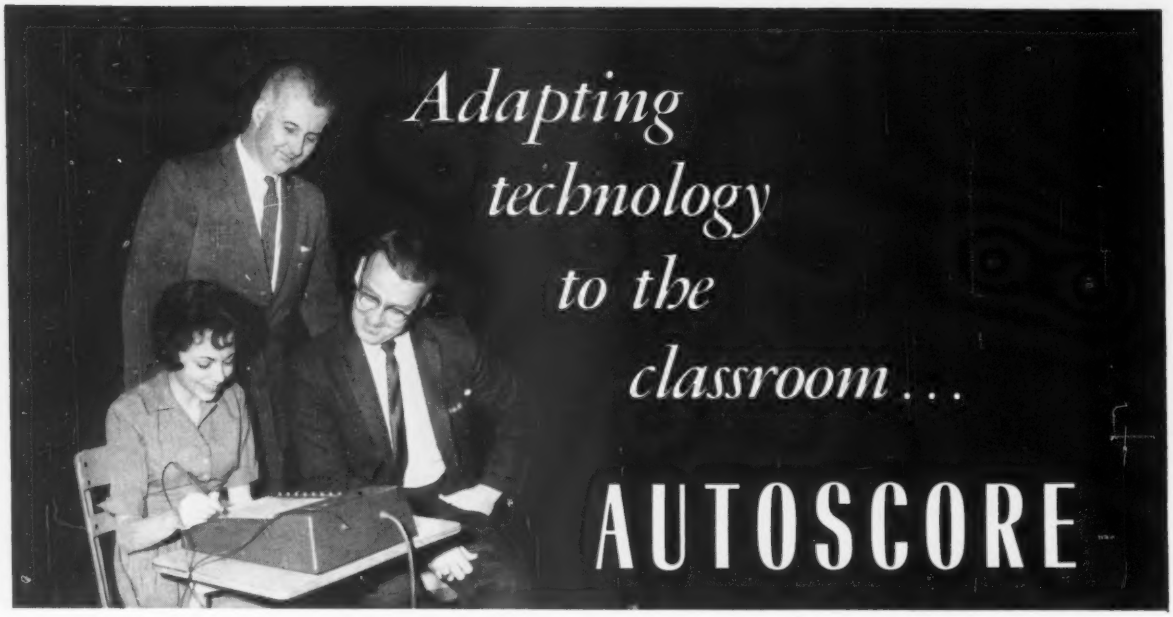

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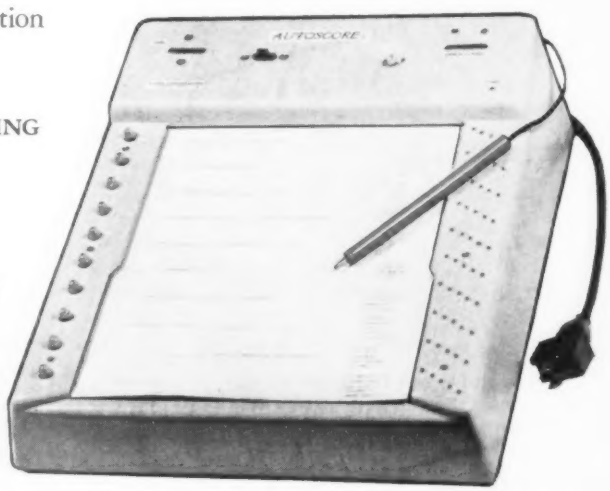
- TESTED AND APPROVED BY LEADING EDUCATORS
- SAFE, RELIABLE ALL-ELECTRIC OPERATION
- QUICK, EFFICIENT PROGRAMMING
- STIMULATES PUPIL INTEREST
- SIMULTANEOUS SCORING
- ABSOLUTE ACCURACY



AUTOSCORE —*a* VERSATILE *system of programed instruction*

Gentlemen:

Please send me detailed information on AUTOSCORE. I understand there is no obligation.

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Address .....

City ..... Zone ..... State .....

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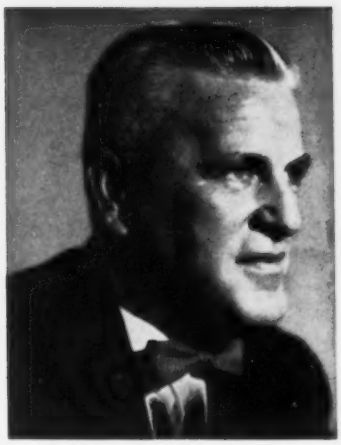

ONE VIEW

Archibald B. Shaw

Who's Afraid to Teach?

"Free men cannot properly be taught by slaves. Courageous citizens cannot be well educated by scared hired men."—HAROLD BENJAMIN

WHO *is scared? Who is afraid to teach? Teachers are afraid who themselves are:*

Insecure, not whole emotionally.

Afraid to test their ideas and convictions lest they be shaken in them.

Dictators themselves, expecting to be dictated to.

Indoctrinators of a big truth in which they themselves have been indoctrinated.

Unsure of what they do know.

Teachers are afraid who in their classes have:

So many children that they can't know what's in each mind and heart.

"By-the-bell" scheduling, and who dare not start a discussion lest time run out before all understand.

Tried and failed and have become too discouraged to keep on trying.

Children upon whom most other major influences seem to reject truth-seeking and open-mindedness as appropriate goals of a free citizen in a free society.

Accepted as their major, almost their sole, goal the adjustment of children to their fellows and to society, forgetting the sacredness of the individual and the progress made by brave and wise souls who dare adjust society better to meet man's needs.

Teachers are afraid who in their schools:

Feel themselves standing alone.

Have their every move mapped, every method mandated, every lesson laid out—whether by dictatorship of single "authority" or of "democratic committee."

Are themselves pawns. "The teacher, like the artist, the philosopher, and the man of letters, can perform his work adequately only if he feels himself to be an individual directed by an inner creative impulse, not dominated and fettered by an outside authority." (Bertrand Russell)

Are surrounded by those afraid, so that subtly the teacher is torn between loyalty to his colleagues and dedication to leading youngsters towards truth.

Find few resources available to present the diversities from which truth may be distilled.

Teachers are afraid who in their community find that:

School success is measured by the degree of achievement of rote skills.

Citizens at large or even parents alone have no part in setting objectives and goals.

The preponderance of community sentiment seems anti-intellectual.

Their personal isolation from the community leads to a distrust based on lack of personal acquaintance.

Much criticism is based on ignorance and stereotype, on rosy recollection of the old-time school.

Teachers are afraid who in their profession:

Fail to join with others in strengthening the profession.

Find colleagues, who later teach their present classes, building their own strength by belittling the work of the previous teacher.

Press for conformity unlimited so that another's strength won't contrast with their own weakness.

Take refuge in silence when the rights of others are attacked, or when unwarranted criticisms are made.

Regard the teachers' job lightly, either through modesty, disinterest, or secret insecurity.

Yet, this long parade of five-times-five fears does not intimidate the courageous, the dedicated, the informed, the cultured, the cooperative, the active in citizenship, the truly professional teacher. Somehow we still have men and women in our classrooms whose influence and integrity are the best guarantees that our free public schools will continue to build free men.

To administrators, the challenge is to find those already-free teachers and to do all we can to help others to become free—not only free from fear but free for creative teaching—until of none can it be said: He's afraid to teach! ●

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FORUM

A Proper Season

If American schools are free, why do they charge tuition for summer sessions? When are we going to get rid of our prejudices toward a twelve-month school year when the weight of evidence is overwhelmingly in its favor?

Claims that a student will appreciate the serious intent of summer schooling only if he pays for it are tantamount to saying that summer is not a proper season for learning. Yet, there has been no shortage of pupils wherever schools have opened their doors for free study during the summer months.

Several states have ruled that it is illegal to charge tuition to public summer school sessions. Yet others still carry outmoded laws which restrict state aid for summer sessions; if our educational programs are to be strengthened, these laws must be repealed.

Contracts to teachers should be written on the basis of a twelve-month school year (with leave allowances for university study and educational travel) and the summer vacation period for teachers and students held to two to four weeks. Free summer programs in our schools would not only strengthen the educational program, they would answer the recurrent plea for full-time use of our school plants and help to get teaching recognized as a full-time profession.—*William Fitzpatrick, Director of Secondary Education, State College at Boston.*

One State's Variety of Districts

Ohio, with fewer than 1,000 school districts and an average district size of about 2,000 students, is at neither the top nor bottom of the states in its irrational district organization. But its contrasts are the more startling.

Its 143 city school districts range down from Cleveland's 134,000 pupils to St. Bernard's 700. In the ability to support education, measured by the assessed valuation per pupil, St. Bernard with $106,000 is twenty times as able as Wellsville with $5,400. Cleveland's $21,600 is high for the big cities.

In the seventy-seven village districts the spreads are ten to one in enrollments and in local tax base.

But for really sharp contrasts consider the exempted local districts which range in size from Middle Bass with five students to the nearly 7,000 in Washington. Middle Bass has $148,000 behind each pupil and spent $1,298 per pupil last year. It has more than ninety times as much property wealth as Jefferson with its $1,600 assessed valuation per pupil.

One local district of 1,500 students reported spending $75 per pupil (which was one-seventeenth of the Middle Bass figure and one-fourth of the average for all local districts). This district was one of thirty-four which had less than $5,000 valuation per pupil, but the others in that category spent from $218 to $304, averaging $260—over three times as much!

Incidentally the *average* teacher's salary in Ohio is $5,600 for cities, $5,000 for villages, and $4,700 for "locals." Two "locals" pay their three teachers each an average $3,133, while another pays its ten teachers an average $6,951.

This is no exceptional state, although it does rank quite high in wealth. But the contrasts raise questions which are the same for nearly every state. What does it say about giving the local people a bigger share in school costs? Does each Ohio child have equal access to good schools? Will $3,100 buy the services of a good teacher? Does any community have the right to spend only $75 on a child's education? How can we support local initiative yet prevent local deprivation? This variety is just too wide!

Are the Generals Educated?

Four generals turn against France's government and seek to establish national policy. The Congo chaos is led by "educated" Congolese who are impatient with (even ignorant of) democratic processes and who combine political with military power to establish personal government. The Laotian mishmash features the few "educated" who "know" (each differently) what's good for their people. Even in the U. S. we recall the amazing outcry when President Truman asserted the right of elected leadership to control the military by relieving General MacArthur of his command.

Is the development of the intellect really the central task of education? Are our schools and colleges to focus primarily on the individual? Or isn't there a different, mortal urgency implied in these world events? Isn't the lesson brought home again that the building of responsible, informed, and effective citizenship is the basis of our commitment to universal education and the reason for our devotion of public money to its support?

Life adjustment may not be the right label for the kind of education we need. But neither is the tough academic curriculum. We don't want the intellect-centered, selection-by-elimination system traditional in France and in most of the former European colonies. Nor do we want the "soft" non-intellectual education found mostly in caricature but true of bits and pieces of American education.

We'll settle for an education that gives equal emphasis to the "I" and the "we," which develops intellectual power and individual potentiality at the same time that it builds awareness, accommodation, concern, compassion, larger loyalty, the habit of using knowledge in a social context, and a commitment to shared democratic values.

Education in and for citizenship is what's missing in Algeria, the Congo, and Laos. No concern for competence or superiority in the achievements race will excuse us if we forget our own commitment to this basic goal. •

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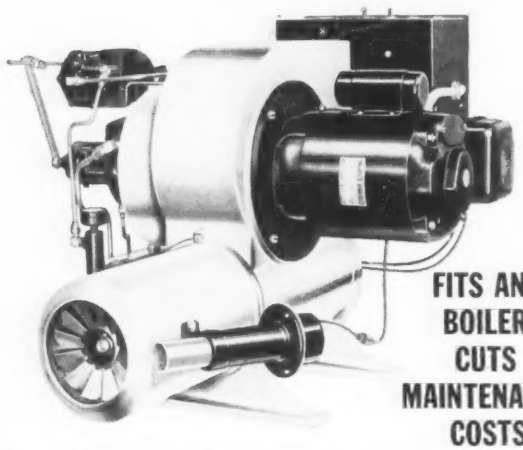

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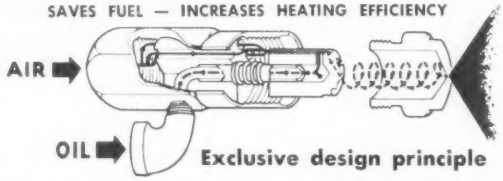

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ECONOMIC SCENE

How to Raise Economic Literacy

I WOULD LIKE to return to the topic that was discussed in this column last month—the relation of education to unemployment—and examine this complex problem in another light. In addition to education's responsibility to help reduce unemployment by retraining people in the skills that are most in demand, it has another: to raise the population's level of economic intelligence.

The public must be better informed than it now is or it will support economic policies that, in the long run, will only worsen the unemployment problem.

There are several "easy" remedies the government could take to rectify the unemployment problem: it could force the unemployed to work at any job, and for any wage—on highway construction, say, or some other federal project; it could require the consumer to specify five or ten years in advance exactly what he was going to purchase so that it could allocate the labor force necessary to produce these articles; it could even control the rate of change in the technology. But no one in the United States who cherishes his democratic freedom would advocate such drastic solutions. The cure would be worse than the disease.

What we are trying to do is to operate a reasonably free society, in which the people are left essentially free to choose their jobs, to prepare themselves for such jobs, and to work at them when they want to. We are also developing a society in which the consumer will be essentially free to buy what he wants, when he wants it. These decisions enormously complicate the problem of dealing with unemployment.

The fact remains, however, that if we want to keep our freedom of economic choice, then we must become far better informed than the people in a police state. If we allow people to choose their jobs, we shall have to make them much more intelligent job-choosers than they now are. If we are to leave people free to determine what they are going to consume, we shall also have to make them more highly informed consumers.

Five hundred years ago the Western world set out to produce alphabetic, or verbal, literacy giving whole peoples the ability to read and write. We have succeeded in learning how to do this. Today we can take any population in the world and, in two or three generations, make it 95 percent literate.

But no society has yet made even an intelligent beginning in making its population economically literate. We don't even know how to solve this problem. Police-state economists say that this is impossible—that the masses

can never be made economically intelligent, and that, consequently, technicians and planners must decide what the people should consume and must set up the work forces accordingly. These planners are also convinced that the people can never be made intelligent enough to decide how much they should save, and what they should do with their savings. These decisions, they believe, should be kept in the hands of centralized groups.

These methods violate essentially everything that we in the free world believe. But the assumptions on which they are based make equally clear that viable free economies must have people with a high level of information and intelligence. One of the unsolved problems facing this nation, and any nation today that expects to keep a free economy, is to come up with far better means of making the mass of people economically literate.

All we have to do to see the extent of this illiteracy is to look at some of the suggestions for dealing with unemployment that are advanced in highly responsible circles. A classic illustration is the consideration of unemployment as a single problem which can be solved simply by artificially creating additional purchasing power. If the price of political liberty is verbal literacy, certainly the price of economic liberty is economic literacy.—HAROLD F. CLARK

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Ark:	U of Ark (Hous Rev)	1.672	NR	3.125
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Ga:	Ga U System Bldg Auth (Revenue)	13.	*A	3.75618
Ind:	Ind U (1st Mtg Rev)	3.	NR	3.9971
Mass:	Berlin-Boylston Reg	1.415	*Baa	3.60
Mich:	Bloomfield Hills #2	4.135	Baa	3.823
	Owosso	3.87	A	3.62985
Minn:	Crookston Ind #593	1.1	A	3.8080
Mo:	Kansas City	5.	Aa	3.11939
N.J.:	Sayreville	3.42	A	3.66
	Middlesex	1.011	Baa	3.68
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	Babylon Un Free #9	2.428	Baa	3.667
Ohio:	Findlay	4.95	Aa	3.275
Okla:	Comanche Co Ind #8	1.25	A	2.5872
Ore:	State Bd Higher Ed Series B	5.	Aa	3.5020
	Series A	2.3	Aa	3.5605
	Lane Co #4	2.5	Aa	3.2010
Penn:	Paoli Area Sch Auth (Revenue)	3.85	A	3.2930
Tex:	Austin Ind	2.5	A	3.44665
	Waco Ind	1.	A	3.07339
Va:	Giles Co Sch Bd	2.35	*A	3.4027
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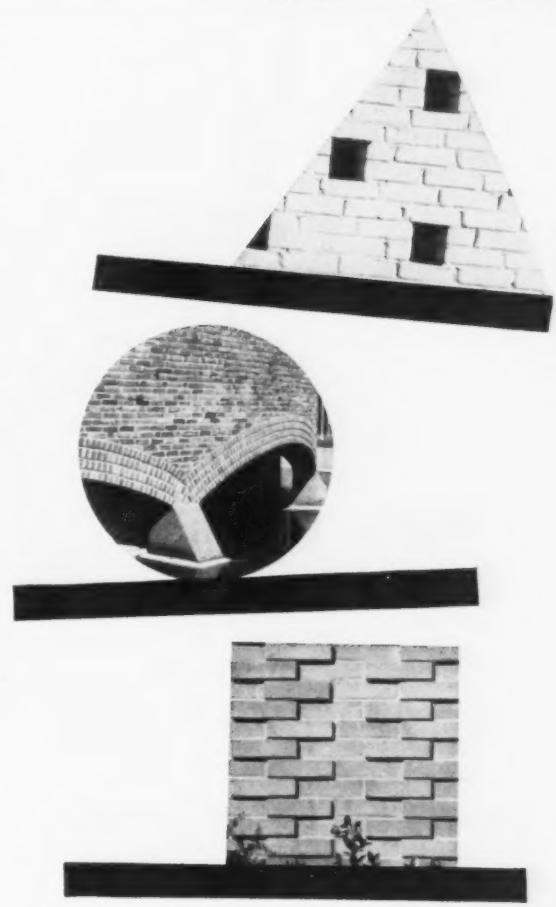

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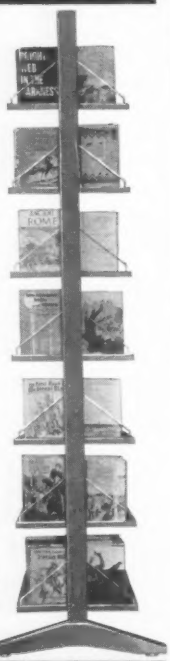

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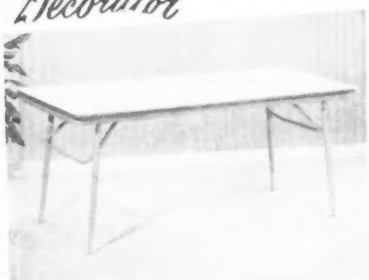

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CALENDAR

JUNE

20–23, National Commission on Teacher Education and Professional Standards. At The Pennsylvania State University. Ex. sec.: T. M. Stinnett, 1201 16th St., N.W., Washington 6, D.C.

25–30, National Education Assn. Annual Convention. At Atlantic City, N.J. Ex. sec.: William G. Carr, 1201 16th St., N.W., Washington 6, D.C.

JULY

2–5, American College Public Relations Assn. At Denver, Colo. Ex. sec.: Frank L. Ashmore, 1785 Massachusetts Ave., N.W., Washington 6, D. C.

2–14, Department of Classroom Teachers of the NEA. At Glassboro, N. J. Ex. sec.: Margaret Stevenson, 1201 16th St., N.W., Washington 6, D. C.

3–7, National Assn. of Physical Plant Administrators of Universities and Colleges. At Corvallis, Ore. Sec.-treas.: John H. Sweitzer, Earlham College, Richmond, Ind.

3–7, National School Public Relations Assn. At New York. Sec.-treas.: Roy K. Wilson, 1201 16th St., N.W., Washington 6, D. C.

9–15, American Library Assn. At Cleveland, Ohio. Ex. dir.: David H. Clift, 50 East Huron St., Chicago 11, Ill.

10–14, American Alumni Council. At Miami Beach, Fla. Ex. sec.: Ernest T. Stewart, 1785 Massachusetts Ave., N.W., Washington 6, D. C.

22–25, National Audio-Visual Assn. At Chicago, Ill. Executive Vice President, 1201 Spring St., Fairfax, Va.

31–Aug. 4, American School Food Service Assn. At Denver, Colo. Ex. dir.: John N. Perryman, P. O. Box 8811, Denver 10, Colo.

31–Aug. 7, World Confederation of Organizations of the Teaching Profession. At New Delhi, India. Sec. Gen.: William G. Carr, 1201 16th St., N.W., Washington 6, D. C.

AUGUST

6–9, College and University Personnel Assn. At Seattle, Wash. Ex. sec.: Donald E. Dickason, 809 S. Wright St., Champaign, Ill.

20–26, National Conference of Professors of Educational Administration. At Berkeley, Calif. Sec.-treas.: Dale K. Hayes, Teachers College, University of Nebraska, Lincoln 8, Neb.

31–Sept. 6, American Psychological Assn. At New York City. Ex. sec.: John G. Darely, 1333 16th St., N.W., Washington 6, D. C.

SUMMER WORKSHOPS

The 23rd annual short course for building service supervisors will be held in New York at Columbia Teachers College **June 5–9.** Director: Richard F. Tonigan.

A three-week seminar on administration of community schools will be held at Kansas State Teachers College, Emporia, **June 5–23.**

A three-week course on school facility planning will be held at The University of Chicago **June 7–25.**

Cornell University will offer a one-week seminar on executive leadership skills to be held at the Motel on the Mountain, Suffren, N. Y., **June 11–16.**

A three-week seminar on administration and supervision of vocational education will be held at Kansas State University, Manhattan, **June 12–30.**

Workshop on school-community relations will be sponsored by The University of Minnesota, Minneapolis, **June 13–July 14,** in cooperation with the Minnesota chapter of the National School Public Relations Assn.

Michigan State University, in conjunction with the Midwest Program on Airborne Television Instruction, is offering two-week workshops on the effective use of television for classroom instruction. Workshops are scheduled during the period of **June 19–July 8.**

A three-week seminar on administration and supervision of special education will be held at Kansas State Teachers College, Emporia, **June 26–July 14.**

Three-week workshops on the elementary school principal as an individual, and on adaptation to change in secondary education will be held at The University of Chicago **June 26–July 15.**

A three-week seminar on organization, administration, and supervision of the school maintenance program will be held at Kansas State Teachers College, Emporia, **July 17–Aug. 4.**

Three-week courses on guidance information and consultant services, and on incorporating new ideas into secondary education will be held at The University of Chicago **July 17– Aug. 5.** Also to be held at this time will be a three-week workshop on programed instruction.

The 12th annual short course on college business will be held at The University of Omaha (Neb.) **July 24–29.** Director: Frank H. Gorman.

A two-week workshop on planning educational facilities will be held at Michigan State University, East Lansing, starting **July 31.** Director: Floyd Parker.

The American Society of Training Directors will run programs on training methods and management development at its 8th annual institute at the University of Wisconsin, Madison, **July 31–Aug. 11.** Director: Norman C. Allhiser.

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A Special Report on TMI-GROLIER Programmed Courses, Programmed Texts and Low-Cost Teaching Machines

THE DEVELOPMENT of programmed learning has progressed to the point where teachers and educators everywhere are asking how this new instructional method will affect them, their schools, and their classes.

TMI-GROLIER, a pioneer in programming research and teaching machines, has been engaged in extensive experimentation and testing, under the leadership of a team of educators and psychologists headed by Dr. Lloyd E. Homme and Dr. James L. Evans.

Working closely with other psychologists in the field, and drawing on the best practical and theoretical experience available, TMI-GROLIER has produced a series of programmed courses and texts. In addition, we have perfected and are manufacturing the first practical low-cost teaching machine for use with programmed courses.

The TMI-GROLIER programmed courses and texts include spelling, arithmetic, algebra, punctuation, music; basic courses in Spanish, French, German, Latin and Russian, and others. Every course has been extensively tested, together with the TMI-GROLIER teaching machine, in actual classrooms, such as the Albuquerque classroom pictured above. Feedback data are incorporated in the final revisions of every course.

"Teaching machines, *properly programmed and properly used*, are our best hope for education."

This statement, made by Professor James McClellan of Teachers College, Columbia University, perfectly summarizes the aspirations of TMI-GROLIER.

We do not pretend to know all the answers to programmed learning. However, with the cooperation of leading educators, curriculum specialists, and psychologists, we have successfully completed the first necessary steps of this great educational experiment: we have produced a series of thoroughly tested programmed courses and texts; we are now manufacturing in quantity the first practical teaching machines for those educators who want to test them.

Our next step is clearly one in which TMI-GROLIER must explore, together with the educators in the nation's schools, the best possible means for *utilizing* the courses and machines we now have, and others which are in preparation.

Together, we will find the answers to many questions: In what aspects of learning can teaching machines be of optimum use? How effective are they in the classroom? For the individual student? For the teacher? To what extent should school administrators and boards of education consider teaching machines and programmed learning?

In this second phase of development, TMI-GROLIER is now at work, correlating our findings with those of others in the educational world. Our courses are constantly being revised and re-designed to meet the actual needs of the teacher and classroom. Our full-scale Programming Facilities are coordinated with the mainstream of leading educational thinking. In short, today's classroom needs are determining the direction of TMI-GROLIER's expanding services in the field of programmed learning.

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LATE NEWS

For further coverage, see pages 59–61.

ON THE HILL: As this goes to press, a revamped school assistance act is being debated on the Senate floor. With many of the religious and racial issues being compromised, observers give the bill a good chance for Senate passage. (Prospects in the House are still clouded.)

As it emerged from committee, the bill was sweetened to attract wide support from southern Democrats. It calls for a three-year program of grants to the states for construction of public elementary and secondary schools, payment of teachers' salaries, or both. Appropriations total $2.55 billion—$252 million more than the original administration proposal. Most of this increase is directed at low-income states, but some will also go to richer, industrial states.

One major change was to base the state allocations on school-age population in each state rather than on public school enrollment. The result is greater aid to states with heavy private and parochial school enrollments.

In a second basic change, the committee voted to continue government aid to federally-impacted areas for another three years at a cost of about $300 million a year.

The version recommended by the House sub-committee includes an even bigger increase over the original proposal than does the Senate version. The bill now under consideration in full committee calls for $2.984 billion over three years.

President Kennedy has also called for extension of the National Defense Education Act. Some Capitol Hill observers believe the NDEA may be the vehicle by which more federal funds will go to aid parochial schools.

* * *

DISTINGUISHED TEACHER: The Detroit board of education has approved a "distinguished teacher plan" by which outstanding teachers will be able to earn more than $10,000 a year. The plan was proposed by Supt. Samuel Brownell who said it would "encourage especially able teachers to remain in the classroom as a career."

Under the plan, 100 distinguished teacherships will be established with salary maximums equal to that of an assistant principal (up to $10,523).

The Detroit Education Association, viewing the plan as a type of merit pay, has expressed disapproval.

* * *

STIMULATION: Stephens College, Columbia, Mo., is promoting faculty development by a series of annual summer grants to staff members who undertake projects contributing to the educational program of the college. Such projects will include research and writing for publication, field studies in areas of primary professional concern, experimentation with or preparation of new teaching materials, and independent work or study in any of the creative arts.

Stephens will use project results for enrichment of its academic program, while providing for the professional growth of faculty members.

* * *

OPEN END: "In the old days, you went to school, graduated and then lived off that experience for the rest of your life. That whole philosophy is going out the window. Education and training is becoming a life-long process."

This statement at a morning session by manpower specialist Eli Ginzberg summed up an underlying theme of the 17th annual meeting of the American Society of Training Directors. Later, Dr. Forrest Kirkpatrick, personnel consultant and executive with Wheeling Steel, made the same point, adding that "our present age criteria for setting promotion, reassignment, and retirement policies are no longer realistic; people are living longer and are more productive longer than they've ever been before."

After these two speakers threw down the glove, the 1100 training directors got some help in picking it up from Harvard's B. F. Skinner, teaching machine pioneer. Skinner ran through elementary programmed learning theory and encouraged his listeners to investigate the field as an efficient way to teach new skills within rapidly changing industries. (Activity on the exhibitors' floor was consistently strongest around booths displaying teaching machines and programs.)

The new ASTD president, Dr. Vernon Sheblak, reflects something of a trend within the Society. Sheblak has been director of adult education (Torrance, Cal.), consultant in adult ed (Fresno County, Cal.), and special supervisor for business education (Cal. State Dept. of Education). He received his Ph.D. in education before becoming training coordinator for Pacific Finance and an ASTD member. As Sheblak and others see it, fewer training directors will be coming up from the production line and more will be coming on the job with educational backgrounds.

There is already some concern within the ASTD to better define who a training director is, what he does, how much he is paid, where he comes from, and where he goes in management. Preliminary research by regional vice-president Ralph Boynton (Bank of America) points to eventually answering these questions which are central to future ASTD membership policies.

The trainers are being recognized by agencies of the Federal Government as a significant group to use in cooperative ventures among emerging nations, according to out-going president Robert Graham (United Air Lines), who told an applauding crowd of the general professional growth of their Society during the past year.

A unique session of idea "trading posts" plus an amplified telephone interview with Labor Secretary Goldberg ("industrial training is one of the great challenges of the Sixties, etc.") rounded out one of the best-planned conventions of the year.

* * *

PROGRESS IN DESEGREGATION: About 20 Southern communities are preparing for initial or expanded desegregation this fall.

According to Southern School News, *Virginia* may nearly double the 200 Negroes now attending biracial schools. Much of the increase is expected in Northern Virginia, where Arlington and Fairfax Counties and the City of Falls Church voted to handle their own pupil assignments, replacing the State Pupil Placement Board.

In Prince Edward County, where all public schools have been closed for the last two years, the Federal Government has moved to force the re-opening of schools this September. In a precedent-shattering move, the government asked the federal district court at Richmond to bar state support of any public school in the state until Prince Edward County schools are re-opened on a racially desegregated basis. It marks the first time the government has taken the role of complaining party in a desegregation suit.

In preparation for the first public school desegregation in *Georgia*, Atlanta school superintendent John Letson appeared before separate meetings of Negro and white students to explain plans for September. The city has agreed to comply with a federal court order to desegregate the eleventh and twelfth grades as a start on a descending grade-a-year plan.

In *Texas*, a court order for desegregation in Dallas this September became final when the district school board waived its right to appeal to the U. S. Supreme Court. Negroes will be admitted to white schools under a grade-a-year plan.

Carrying out its promise to follow the custom set by the public schools, the Catholic schools in Galveston and Houston will desegregate with the opening of schools in September. All parochial schools will be desegregated simultaneously.

In *Florida*, Escambia County (Pensacola) school officials decided not to appeal or attempt to delay court-ordered desegregation. Details will be worked out by the board and submitted to the federal court for approval. It will be the state's first desegregation by court order.

Dade County, which desegregated voluntarily in 1959, altered a school district line and placed 200 Negro families in the area of a white school. Parents in the racially changing neighborhood have been notified that their children could apply for transfer.

Knoxville, *Tennessee*, will allow Negro high school students to attend vocational and technical training classes in white schools in the fall. The city began a grade-a-year plan last year with the first grade. But in Memphis, Negroes were balked in a federal district court in a suit seeking immediate desegregation of the city's public schools. An appeal is planned.

The *New Orleans* school board, with one of its two desegregated schools completely boycotted by whites, plans to extend its pupil placement plan to all first graders this September. This is the same placement plan which led to the white boycott now in effect at the two schools.

Residents of St. Helena Parish have voted overwhelmingly to close their public schools this year rather than desegregate them. The vote gives the parish school board the right to abolish public schooling and makes parish students eligible for individual grants from the state for use in private schools.

The Greater *Little Rock* Ministerial Association has requested the school board and other community leaders to prepare the community for further desegregation. The board, which last month received a federal court of appeals order for a speedup of desegregation, said it welcomed the association's offer of support.

Frederick County, *Maryland*, will close its sixth Negro school this month, in continuation of a program begun in 1956 to abolish in deliberate stages the dual school system.

* * *

THE PLUGGED-IN MIND: Learning how the mind organizes, stores, and retrieves new information is the subject of four new grants by the Carnegie Corporation of New York. Totaling $348,000, they will assist two projects at the University of California and one each at the University of Texas and the Social Science Research Council.

Psychologists already know that large electronic computers ("electronic brains") can simulate some activities of the human mind. Through further research they believe they can exactly imitate electronically the processes that memorize multiplication tables, learn to read, or make choices between alternatives. Hence, knowing how the computer works may yield vital information on how the mind works.

Such studies hold great significance for educational theories and methods, which are now based on certain assumptions as to the way the mind functions. These assumptions previously could not be tested.

* * *

MORE FIRE SAFE: American schools and col-

leges achieved a significant gain in their fight against major fires in 1960, says the National Fire Protection Association.

"Large loss" fires—those causing over $250,000 in damage—dropped both in number and in total dollar loss. Last year sixteen such fires were reported costing just under $6 million. The previous year, twenty major fires were reported costing more than $9 million. Three of the major fires occurred in private schools, the remainder in public schools. No college properties were involved in major losses in 1960.

The analysis does not include the thousands of smaller fires which raise the average yearly cost of all school and college fires to more than $26 million.

The Association said such losses could be eliminated through proper design of buildings and through use of protection equipment like automatic sprinklers and alarm systems.

* * *

HYBRID: The junior high school of the future may be ungraded, with some students moving on to high school sooner than others; it may operate without bells, buzzers, or regular periods; it may permit longer lunches and extra food breaks.

These possibilities are explored in a new booklet, "The Junior High School We Need," published by the Association for Supervision and Curriculum Development. The booklet refers to the junior high school as a "hybrid," with some features of the high school and some of the elementary school.

The authors are critical of such current trends as sorting of students for advanced courses before they have had time to explore their own interests and talents; the downward extension of high school courses without adequately prepared teachers and proper facilities; and homework loads that tend to be "hard for the sake of being hard."

They also questioned such high school influences as competitive sports, proms, and elaborate graduation ceremonies.

In these and other recommendations on size and teaching staff, the ASCD's junior high school bears a marked similarity to the junior high outlined in Dr. James Conant's recent study.

WAR AGAINST JD: President Kennedy has taken three steps to launch "a total attack" against juvenile delinquency on federal, state, and local levels.

As a start, he asked Congress to enact a five-year national program under government leadership for "prevention and control of youth offenses" beginning July 1. Cost was estimated at $10 million the first year.

Kennedy also established by executive order the President's Committee on Juvenile Delinquency and Youth Crime to be headed by Attorney General Robert Kennedy. Labor Secretary Arthur Goldberg and Health, Education, and Welfare Secretary Abraham Ribicoff are two other members. The group will review and coordinate all federal activities in the field and stimulate experimentation to cope with the problem.

As the third step, the President set up a Citizens Advisory Council of recognized authorities in the field to advise and make recommendations to his special committee.

A Justice Department spokesman said the program was the first coordinated federal plan ever directed at the juvenile delinquency problem.

* * *

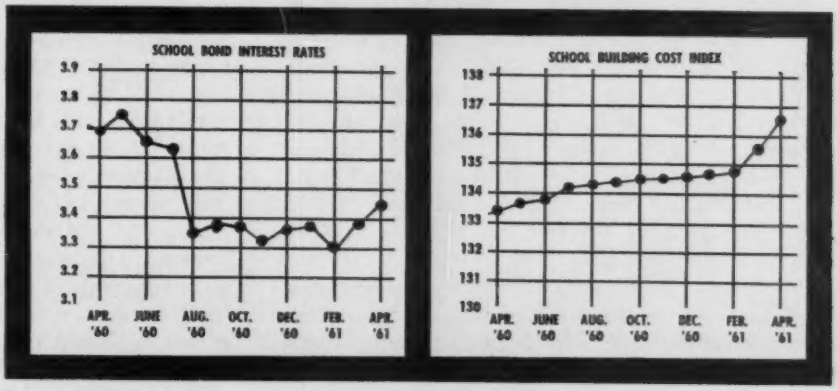
GUIDANCE: At least 80 school districts in the U. S. are now providing guidance and counseling services for older people, an Office of Education survey reveals. The 80 are the only ones of the 4,863 districts (enrollments of 1,200 or more) surveyed by the OE to have such programs. Half the programs were either in New York and California.

The OE ran the survey to determine how local schools are trying to conserve and utilize the skills of the nation's 27.5 million workers aged 45 or older.

(According to Dr. Ginzberg, in a speech before the American Society of Training Directors, this age group will show substantial increases during the 1960's, with a significant national change in the labor picture resulting.)

Guidance services most commonly included: interviewing for personal histories, psychological testing, referrals for occupational information, and planning a training program with the individual.

BUILDINGS & BONDS: February upturn on both interest rates and building costs continues. Despite efforts of U.S. Treasury and Federal Reserve Board to lower interest rates they climbed in April to 3.44%. Building cost index peaked at 136.7 (1947-49 = 100) and is expected to go still higher.



"DISCOVERY FACTORIES": American universities are being turned into "mere discovery factories" by the $900 million a year the government spends for scientific research on the campus, a leading industrial scientist charged.

"Top talent in our universities is being wasted on short-term objectives" to the detriment of teaching and free inquiry, according to Max Tishler, president of Merck Sharp & Dohme Research Laboratories.

He warned that unless university researchers devote more time to teaching future scientists, the wells of discovery will eventually dry up. To restore the proper emphasis to teaching and the atmosphere of complete freedom in research within the university, Tishler urged that government research and development be separated from the campus and that universities should receive funds for the free, creative, and self-stimulated pursuit of new knowledge.

Tishler also recommended that federal appropriations be spread far more widely in order to build the science capacities of more institutions.

* * *

ON BALANCE: Eight percent of the stipend-bearing scholarships awarded by the National Merit Scholarship Corporation are going to seniors in Catholic high schools, says the National Catholic Welfare Conference. (Catholics account for 9 percent of all seniors in U. S. high schools.)

However, 12 percent of the honorary Merit scholarships are going to Catholics.

Numerically, 76 Catholic seniors are among the 950 students awarded stipend-bearing scholarships; 17 Catholics are among the 140 honorary scholarship winners.

* * *

COMPATIBLE OBJECTIVES: More than 3,500 school board members tried to reconcile their local school problems with national needs at the annual meeting of the National School Boards Association in Philadelphia. NSBA delegates moved to solve this contradiction by voting to keep members more fully informed of educational events of national significance and to undertake more of an action program—within previously established policies.

For the first time in its 21-year history, NSBA took a stand on federal aid to education. Unlike its school administrators counterpart—the AASA—the NSBA neither approved nor disapproved of an enlarged government role. In deference to the wide range of opinions among the nation's 150,000 board members, delegates voted to postpone action until a poll could be completed. Acting executive director Harold Webb indicated the survey might take six to eight months to complete.

Participants heard NSBA outgoing president Roy O. Frantz charge them with failing to meet their "commission for leadership" from the American people. He cited three leadership obstacles: breakdown of communications, failure to build-in a constant evaluation of what they're doing, and an almost universal lack of urgency.

In a challenge-laden address, Commissioner of Education Sterling McMurrin said he is "very much opposed to federal control" and that he has not found others in the Office of Education or in Congress interested in federal control either. McMurrin said education's two most important problems were to upgrade the quality of teaching in the schools and to organize our educational establishment towards achievement of national goals. While not denying that education's chief concern is with the individual, he urged that the quality of the culture and society in which he lives not be neglected. "We're moving into an era," McMurrin said, "that increasingly demands of us a national perspective on education. . . . We need to call on the best brains in our society to work on the problems of education. This is not a problem for professional educators alone."

However, Harry D. Gideonse, president of Brooklyn College, said America's school problems can't be met by local control, although a high level of local initiative is needed. He charged there was currently a great deal of uniformity—of questionable value—in education. This is due to informal controls, pressure groups, vested interests, accrediting agencies, and an over-dependence on national tests and textbooks.

* * *

POTPOURRI: Soviet government newspaper *Izvestia* urges the building of more new boarding schools in Russia before the next school year begins on Sept. 1. The paper said that 2,700 boarding schools, with more than 600,000 students, have been opened during the last five years. . . . Washington University, St. Louis, inaugurates this fall a four-year program for students in the school of nursing. The new program replaces the former 36-month course in which students spent nearly all of their time in hospitals. . . . High school seniors in Richmond, Va., are in the midst of a six-week course on Communism suggested by the chairman of the school board. Purpose of the course is to "teach the facts about Communism and its insidious methods and to deepen the convictions of students about their own government and ideals." . . . The American Vocational Association has cited General Electric Company for its national contributions to education and for local support in the 32 states where GE operates plants. . . . Latest count shows 56 educational television stations now operating in the U. S. . . . The University of Michigan has authorized installment payment of student fees starting this fall. New plan permits students to begin classes before they have actually paid any fees. . . . The Southern Regional Education Board has received a grant from the United Cerebral Palsy Association research and education board to continue and expand training programs in the field of special education.

SEARCHING THROUGH RESEARCH

How Students Choose Their Alma Mater

WHAT DECIDES a high school student in favor of a particular college? We ran a study on 588 freshmen at the University of Oregon to find out what had influenced their choice of this institution. We hoped it would give the university new guides in attracting a greater proportion of high-academic students.

First, we divided the 588 sample into three groups on the basis of when they made their college decisions: the *predisposed* who had always planned to go to college and had chosen Oregon before their senior high school year (30 percent were in this group, women being in a slight majority); the *thinkers* who had always planned on college but didn't decide on Oregon until during their senior year or after (58 percent evenly divided between the sexes); and the *late starters* who did not plan on college until during or after their senior year (12 percent with men in a slight majority).

This told us that while 88 percent were college-bound from the start, 70 percent kept open-minded as to which college at least until their senior year.

Within these three groups of freshmen, a definite set of characteristics emerged. Most *late starters* come from families in which the parents had relatively less education and lower prestige occupations, and from smaller high schools which did not offer a college-preparatory program. Highest proportion of parent education is in the *thinker* group (70 percent come from homes in which one parent had done graduate work and were presumably encouraged to investigate well-known schools in other areas). Most *predisposed* lived fairly close to Eugene and received less discriminating advice from their less-educated (than the *thinkers'*) parents, to the effect that "all colleges are good and the U. of Ore. is closest."

We then asked each group to cite what had been the most important sources of information about the University of Oregon. Here, in descending order of importance, are those listed by the *predisposed*: visits to campus; parents; university catalog; high school meetings. Sources listed by the *thinkers*: university catalog; friends; visits to campus; parents. By the *late starters*: university catalog; friends; siblings; high school teachers.

Next we asked them to list those factors that most strongly influenced their decision to enter Oregon. Descending order for the *predisposed*: reputation of school; desire of parents; nearness to home; liberal arts program. For *thinkers*: reputation of school; liberal arts program; cost; visits to campus. For *late starters*: nearness to home; reputation of school; cost; desire of parents. Surprisingly, the university's high school visitation program ranked low as an influence for all three groups.

The implications we drew from the study could apply to most institutions. The greatest reservoir of qualified students is among the *thinkers*. Since this group cites the university catalog as the most important source of information, universities should try to make these even more informative. Since visits to the campus rank high, universities should concentrate on the kind of activity that is most meaningful to the more capable and reflective student. The high school visitation program apparently needs reviewing; perhaps talks by professors to individual high school classes would be more helpful in acquainting the better student with the academic tone of the university. Finally, the fact that 30 percent of the freshmen are predisposed to a specific college before their senior high school year suggests that programs to attract capable students should be extended to the younger students, also. ●

By Professors John Foskett and Walter Martin of the University of Oregon's department of sociology.

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CLOSE-UPS

Ernest Tiemann

AN ARTICULATE verbal communicator will be putting his ability on the line this year to promote better visual communication in education. Ernest Tiemann, new president of the NEA's Department of Audio-Visual Instruction, learned the value of audio-visual instruction the hard way—through seventeen years as a classroom teacher.

Tiemann, who is also director of the Visual Instruction Bureau at the University of Texas, has outlined an ambitious program to win his point. He contends that audio-visual equipment is not used to full advantage as a teaching tool because it's looked upon as a thing apart. "Our big job" he says, "is to weave the whole audio-visual concept into the fabric of American education."

The printed word has been basic up to now, Tiemann says, but this concept must be expanded. "I believe the newly-developed media do not supplement the textbook; rather both must work together." At 55, Tiemann has come to the conclusion that audio-visual tools are still a side show in education's big top because educators have never understood the value of the new methods.

We must break away from the traditional concept where the teacher considered himself the only source of information, Tiemann said. "We're now obliged to draw upon a wide range of materials."

"The teacher is now an opener of doors, a director, an orchestrator of learning resources which must blend together." In order to do this the teacher must have the full range of resources at his disposal.

In 1951, Tiemann came to the University of Texas as assistant professor of education and director of the Visual Instruction Bureau, which he has built up to one of the finest in the country.

His main concern—for the coming year, anyway—will be to see that DAVI provides the intelligent leadership that will put audio-visual instruction in the center ring.

Audio-visual communicator.

Richard Cornuelle

RICHARD CORNUELLE is a dynamic young man with a dynamic idea. And his idea could have far-reaching effects on hundreds of thousands of future college students.

Cornuelle (pronounced *Cornell*) is director of the newly-formed United Student Aid Funds with offices in New York, Indianapolis, and San Francisco. His immediate goal: to raise $40 million in working capital to provide college loans to students who need financial help. Cornuelle believes that present loan provisions of banks, insurance companies, and other agencies aren't helping enough students who need help most—those who can't put up sufficient collateral to be classed as good risks.

The privately-financed USA Funds will get around this obstacle by guaranteeing loans made by local banks. Any student who has completed his first year of college is eligible; the only requirement is a signed statement from his college vouching for his character and his academic staying abilities in college. Students may

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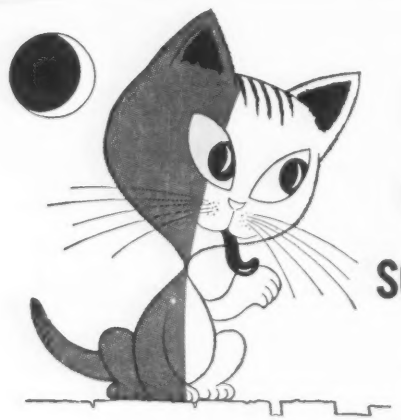

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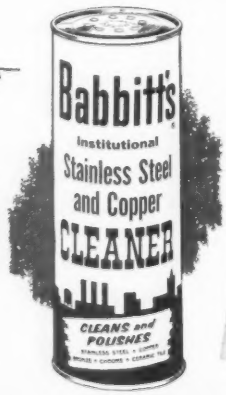

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Close-ups (continued)

borrow a total of $3,000—up to $1,000 a year.

The Funds' $40 million working capital—to be raised in part from a national appeal to foundations and corporations and in part from state campaigns—will be invested at roughly a 4 percent return. The $1.6 million annual income will cover operating expenses, group life insurance on participating students, and a cash reserve fund to protect banks against loan defaults.

Cornuelle sees no immediate way to hold down the rising cost of a col-

Goal: $40 million for college loans.

lege education. He believes loans are the logical bridge over the gap between college cost and student resources (family support, summer earnings, and scholarships).

The 34-year-old Cornuelle is completely absorbed in his venture. Since last July (when USA Funds was incorporated) he's been hopping back and forth across the continent, organizing state associations and lining up corporate support. Most of his career up to now has been in the field of philanthropy. For the last ten years he was associated with the William Volker Fund of Burlingame, Calif.

The USA Funds idea was conceived at the Volker Fund, which is supporting the program until it becomes financially independent. Cornuelle, enthusiastic and confident, predicts it won't be long before his organization can guarantee over $500 million of student loans. •

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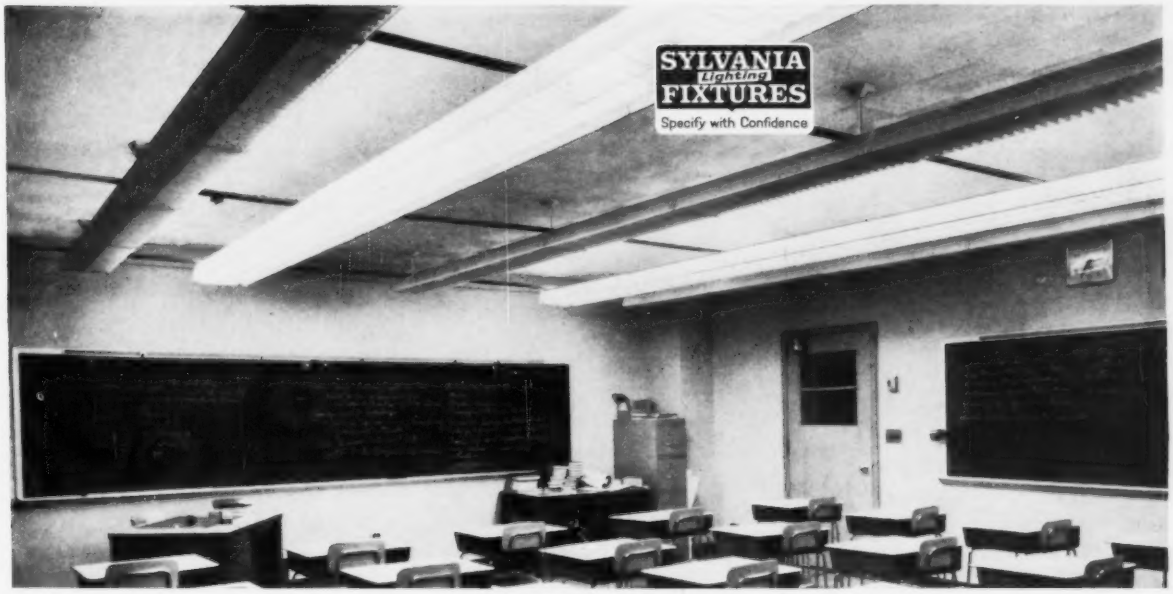

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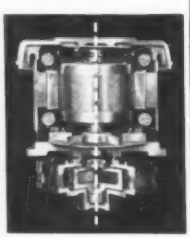

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Satellites, Astronauts, And a Grounded Aid Plan

IN ONE respect, at least, Major Yuri Gagarin's historic flight into space was a flop: the Soviet Cosmonaut's exploit didn't do a thing for the schools of the United States.

Remembering the educational furor which followed the launching of the first Soviet earth satellite in the fall of 1957, some hopeful educators here drew comfort from the Russian man in space this spring. Another Soviet scientific first, they reasoned, should stir up enough interest in American schools to give President Kennedy's aid-to-education bill the extra push it needs to get through Congress.

Enough time has now elapsed since Major Gagarin made it back to terra firma to permit the judgment that it didn't work out that way. So far as the impact on our schools is concerned, the Soviet hero never got off the ground.

To be sure, Representative Adam Clayton Powell Jr. (D-N.Y.), chairman of the House Education and Labor Committee, announced that the new Soviet achievement had prompted him to abandon any thought of endangering the administration's school bill by insisting on an anti-segregation amendment. But Mr. Powell had previously given strong hints that this would be his course this year in any event.

A few other members of Congress also issued statements to the effect that the Russian spaceman had made passage of President Kennedy's program a matter of urgent necessity. But these comments came, without exception, from legislators previously fully committed to the administration's position.

There is no evidence in Washington that Major Gagarin shifted a single needed vote. Perhaps Russian scientific preëminence is now an accepted fact of life—like overcrowded schools—which lacks the power to shock or to stimulate action. Or perhaps Americans have become more sophisticated about their schools since the great hysteria of 1957-58 and are no longer willing to make the classroom a scapegoat for all that ails the nation. If the latter is true, it probably augers well for the schools in the long run, even if it does not help the immediate legislative situation.

But if Vostok, the capsule which lofted Major Gagarin, made no impression on Congress—at least with respect to the nation's educational needs—the after-affects of Sputnik I are still noticeably present.

It was the first Soviet earth satellite which brought about passage of the National Defense Education Act of 1958. And it is the National Defense Education Act, which still has a year to run, that suddenly offers the best hope for enactment of a new school aid bill this year.

The Act, primarily designed to strengthen instruction in the sciences, mathematics, and modern foreign languages, has been seized upon on Capitol Hill as the key to a compromise—perhaps the only possible compromise—on the supercharged question of federal assistance to private and parochial schools.

One title of the Act provides loans to such schools for the purchase of science, mathematics, and language teaching equipment. It does not authorize loans for construction, except where alterations are made necessary by the new equipment, but Congressional leaders have pointed out that there is no reason why loans for construction of new laboratories and classrooms could not be included

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Washington (continued)

in an expanded Defense Education Act.

There is reason to believe that such a move might be acceptable to leaders of the Roman Catholic Church, whose insistence on the inclusion of parochial schools in any federal aid program may decide the fate of school aid this year.

President Kennedy has asked Congress to continue the Defense Education Act for at least three years beyond its scheduled expiration date and to broaden its provisions. The President has taken a firm stand against "across-the-board" federal aid to private and parochial schools, but he has also said there would be no constitutional objection if such aid were merely "incidental" to other national policies. The Act seems almost made to order for a compromise.

If this route should prove to be the one that leads to passage of a school bill this year, the Russians, looking back to Sputnik I, may well claim in future encyclopedias that they invented federal aid to education in the United States.—ERWIN KNOLL

As America's cities grow and change, what is the role of educational planning? Is the city school or college doomed to suffocation? Are educators at the mercy of population shift? Read the special report on

THE DOWNTOWN SCHOOL

coming next month. It is another in a series of major issues confronting education, analyzed in depth in the pages of

OVERVIEW

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Do You Know Why Your Teachers Resign?

"THIS LETTER is to inform you of my resignation at the close of the current term. My relations with your school system have been most cordial."

This polite note from a teacher is typical of letters of resignation sent to educational executives every year. It's typical because it gives no clue to the reason why the teacher chooses to leave.

But when teacher turnover passes the point that can be explained by personal reasons (retirement, pregnancy, illness, a family move), the administrator had better start looking for the clues. And chances are that he'll find, as we did, that there are trouble spots within his school that are sending his teachers off in search of greener pastures elsewhere.

The administrative council of the Leonia, N. J., school system was forced to look for resignation clues when a staff analysis showed that there had been a 72 percent turnover between 1955 and 1959.

Why were our teachers leaving in such numbers? A check on the letters of resignation told us nothing specific and so the usual ego-protecting reasons were offered: "Turnover is nothing unusual. People are always leaving for one reason or another. Anyway, we need some new blood every year." But this kind of reasoning would never build stability in a staff which sorely needed it. Everyone wants *some* new teachers, but not 25 to 34 percent every year!

So the administrative council decided to try the "exit interview." This is a fairly new technique, devised by industry, in which former or resigning employees are asked to tell candidly why they left the organization. We sent a form questionnaire, along with a self-addressed, stamped envelope, to teachers who had already left the school system, in the belief that they would be able to answer with some objectivity since the heat of departure was well behind them.

The questionnaire asked them to check as "satisfactory," "unsatisfactory," or "not important" such items as salary; relationships with department heads, principal, supervisors, superintendent, and board; plant facilities; supplies; working conditions; teaching load; "extra" assignments; clerical chores; communication; recognition of work; opportunity to grow; security; etc.

Response was excellent: of sixty-five forms mailed, forty-four were returned. Not only did the teachers check the items, more than half of them added detailed comments and nine even went into the problem at some length on enclosed letters.

After we tabulated the responses we found that the teachers had been dissatisfied with one administrator and one supervisor and with a school board attitude in a specific area. We had found our trouble spot, then, and in the only way we could have. Understandably, these feelings were not put into the letters of resignation; no teacher wants to create a disturbance when he leaves and they want to keep the bridges behind them intact when job references are asked for.

The trouble spots were corrected (the administrator in question left, the supervisor was given other assignments, and new methods of teacher-board communication were set up) and the next year the number of teachers who left for other jobs dropped from twenty-one to two!

The exit interview gets our full endorsement as a device to find the reasons for teacher turnover that stem from professional dissatisfaction. It spares no one and asks for an honest appraisal of individuals, groups, facilities, and procedures. It may call for some hard soul searching once the results are in, but it gives the executive solid facts to work with to make his own pastures greener. ●

By Kenneth Dunn, superintendent of schools in Leonia, New Jersey.

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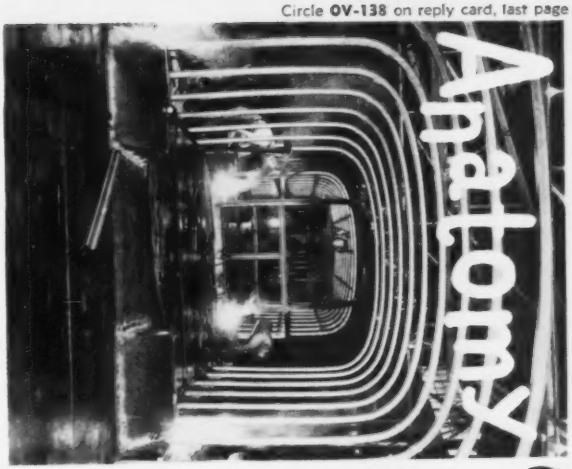

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The Negro in Administration

The color line separating Negro and white children is gradually being erased. But desegregation of top administrative positions in America's public schools is only now getting under way. With the exception of district supervisors in charge of Negro education and principals of all-Negro schools, virtually no Negroes have attained high level jobs—in any part of the United States.

Negro and white leaders, individually and through their professional organizations, are laying the groundwork for the ultimate equal opportunity for qualified Negroes in educational administration, while working hard at the immediate problems of equity and security for established Negro administrators whose schools and districts are being integrated. For eight months OVERVIEW*'s News Editor and staff have been visiting the men and groups concerned. Their findings constitute the first national report on this turning point in the profession.*

THE ELEVEN MEN closed their notebooks and rose from the table. They had put in a full day at the offices of the Phelps-Stokes Fund working on a Project for the Improvement of Instruction. As the Fund's project director, Dr. Aaron Brown, watched the men file out to dinner, he gave a disheartened nod.

"They are all able men—graduates of some of our best schools. A few Ph.D.'s among them. But they are cut off from a country that needs them. Each man is executive secretary of his state teachers association. They come from Deep South states, so naturally they head up the *Negro* associations there.

"I've worked with them and their staffs and I know they have a lot to offer. Public school people cry out for more and better teachers, more and better administrators. Well, here are eleven good men who have given their lives to children. But no one is crying out for *them*.

"Take Mr. Moon, for example [F. D. Moon, executive secretary, Oklahoma State Teachers Association]. His state has integrated its children with some success. Except for Mr. Moon's teachers. Negroes who were principals of Oklahoma's all-Negro schools have been integrated—right out of their jobs. Many Negro teachers have found the doors of integrated schools closed to them. I'm not talking about kids fresh from teachers colleges. I'm talking about seasoned men and women who have spent their lives in schools.

"Education today cannot possibly afford—by any stretch of logic or imagination—to just throw away people like that."

Throughout the North as well as the South, serious men are coming to grips with the problem of the color line in educational administration. How did this line develop? Two forces have been responsible: lack of opportunities for Negroes wishing to enter the field, and lack of qualified applicants for the few jobs open to them.

Realizing the limited possibilities for careers in ad-

Overview photo

John King, associate superintendent in New York, is first Negro to be given system-wide post without regard to race.

ministration, many Negroes have been content to be classroom teachers. A few set their sights on the highest position ordinarily available to Negroes: the principalship of an all-Negro school. As Negroes have emerged from a state of cultural deprivation (a process familiar to a number of successive immigrant groups in our history), their further progress has been slowed by two reciprocally restricting factors: limits to opportunity and low levels of aspiration. However, seven years after the Supreme Court's decision against segregated schools, Negro leaders are becoming a bit more optimistic. They see some daylight poking through the fog of school administration.

The core of Negro administrative manpower is the segregated principalship. Best estimates place the number of Negro principals of segregated schools at 4,000, possibly more. (One significant gap in the whole area of opportunities for Negroes is the almost total lack of statistics, a matter of some concern for several groups exploring this problem.) According to Dr. George N. Redd, dean of Fisk University, there are less than a dozen Negro principals in non-segregated schools. "It is unusual," he says, "to find a Negro principal even in northern communities which have a number of Negro teachers. They are usually found in schools with practically an all-Negro student body and faculty."

A few Negroes are now holding down district-wide responsibilities as assistant or associate superintendents. About twenty of them are currently working in northern and border states. They are not primarily concerned with racial problems in their districts. However, the fifty Negro associate superintendents and area supervisors in Deep South and some border states are primarily responsible for Negro schools in their districts and work directly under white superintendents.

At the top of the administrative ladder, the superintendency itself, the search for Negroes is all but fruitless. Arkansas has five Negro superintendents in charge of rural, all-Negro districts. Each district barely meets the state minimum of 350 students; it will have one high school and three elementary schools. Although the administrator is called "superintendent," he is more nearly a supervising principal.

Two other superintendents with limited responsibilities are in all-Negro Mound Bayou, Miss., and in the Macedonia School District on the outskirts of Texarkana, Tex. The Texas case is unusual because both white and Negro schools, not yet integrated, are under the Negro superintendent.

Outside the South, the only Negro superintendent on the job is Carl Dabney in Lincoln Heights, Ohio. Dabney arrived this year, successor to a line of Negro superintendents for the Lincoln Heights schools. This Cincinnati suburb's population of 8,000 is 98 percent Negro.

NORTH OR SOUTH, the Negro administrator is thus far glued to all-Negro schools. In the South, he may supervise more buildings, care for more students, and hire more teachers than many white superintendents; but he will still be responsible to a white superior.

Negroes see the Deep South situation as remaining unchanged, even when integration comes. In Atlanta, Ga., where integration is scheduled to begin in September, H. A. Bowen is responsible for an all-Negro area within the city. Because of housing patterns, the racial composition of his schools will not change; he will still be in charge of an all-Negro system even after "integration" takes place.

In the border states, where the Deep South pattern prevailed until the 1954 desegregation decision, Negroes note some progress away from "ghettoized" administration. In St. Louis, for example, Samuel Shepard and James Scott are directors of elementary education and John De Shields is an assistant director of secondary education with responsibilities that involve all-white, all-Negro, and mixed schools. (However, St. Louis has only one Negro principal and no Negro teachers in all-white schools.)

In Louisville, where integration came about smoothly in 1956, there are close to thirty Negro principals, all in predominantly Negro schools. (Louisville began integrating its teaching staff in 1959.)

Moving north, the pattern begins breaking down. The District of Columbia, Baltimore, Philadelphia, Chicago, and New York have placed Negroes in upper echelon positions. However, there is no clear trend evident; in fact, some northern districts make a point of not recording the race of its personnel, making an accurate analysis almost impossible.

New York City was the first northern city to appoint a Negro assistant superintendent without regard to race. After thirty-two years in the system, John King two years ago became associate superintendent for elementary education. Two other Negroes, Mrs. Margaret Douglas and Francis W. Turner, have since been named assistant superintendents for New York.

King believes that more Negroes will be moving up the administrative ladder as they meet the requirements of the job. "As long as appointments are made on the basis of open, competitive examinations, equal opportunity will expand to all groups." King notes that a qualified Negro now has the same opportunity as a qualified white for advancement in the New York City system. "But we must remember," he adds, "that trained manpower must be available if opportunities are to come."

BOTH WHITE AND NEGRO educators involved in upgrading opportunities for Negroes feel that a basic need right now is to establish a sizable reservoir of trained manpower. Many teacher-training institutions are giving this problem more attention. In the South, the Universities of Texas, Oklahoma, Kentucky, Tennessee, and Arkansas, and George Peabody College for Teachers are mentioned as important training grounds for future Negro administrators. Among the Negro schools, Howard, Fisk, and Atlanta Universities are training Negroes for the master's degree in educational administration. North Carolina College is the only Negro institution offering the doctorate.

Horace M. Bond, dean of Atlanta U.'s school of education, believes that preparations for a brighter future must be made now, despite limited opportunities for

graduates in administration at present. "We have indications that parts of the East, Southwest, and Far West are beginning to look for administrative talent regardless of race. Our job is to prepare Negroes well enough so that they may step into a job wherever it opens up."

Dean Bond admits that there is much ground to cover. "It is almost too much to ask, that there be large numbers of Negroes combining both the professional competence and the personality factors which enable them to work well in a hostile or, at best, indifferent atmosphere."

Many non-profit organizations, such as Phelps-Stokes and the National Scholarship Service and Fund for Negro Students, are also at work on the problem. Of special interest is the activity of the Southern Education Foundation. The SEF, aided by General Education Board grants, seeks out potentially able Negroes in education and underwrites their advanced training in some better southern schools. The size of their job is impressive. Over the last eight years, SEF has given more than 4,000 Negro principals—virtually all there are in the South—the opportunity to attend either a summer institute or a full-year academic program.

"Our program can be described as three-pronged," says SEF Director J. Curtis Dixon. *"First,* we annually grant about thirty full-year scholarships to qualified Negro teachers and administrators. It helps them earn advanced degrees at any one of eight cooperating universities. *Second,* we carry on a 'sixth-year' program for men who can't get away from their jobs. These men can complete a full year beyond the master's degree in four summers. *Third,* we encourage Negro administrators, who don't want or need an advanced degree, to return to the campus for a summer of enrichment courses in education."

Long-range programs such as SEF's are lending an air of optimism to the community of Negro educators. However, there remains the short-range situation which to many is the first order of business: erasing the color line in administration. Yet, many Negroes admit that some of the biggest obstacles exist among Negroes themselves.

While administrative opportunities are gradually increasing throughout the North and in border states, the southern Negro must rely heavily upon the segregated framework to give him the job and the experience he needs. One result of extensive consolidations taking place among Negro schools has been the establishment of higher-paying and more responsible—although segregated—positions for Negroes. The mass migration of Negro families from rural areas to metropolitan centers has erased some rural Negro districts and enlarged some Negro city districts to overflowing. Negroes who survive the change achieve higher positions, better pay, and broader responsibilities. On nearly all levels there is marked equalization with white staffs. Although this new development in segregated education is not the answer, it has benefited many Negro educators.

Leslie Dunbar, executive director of the Southern Regional Council, finds that many Negro educators quietly defend the status quo and few have been conspicuous in the school integration battle. "The threat of economic reprisal by white school authorities in the several states is not to be taken lightly. These higher, better-paying jobs have been built up with care over a period of years. The loss of these jobs is a serious deterrent and segregationists have openly emphasized this possibility."

Dunbar's appraisal is borne out by a few recent statistics. In Oklahoma, 380 Negro teachers were displaced by integration, with only twenty assigned to integrated schools. In Texas, sixty teaching jobs were abolished; a large number that were promised failed to materialize. West Virginia and Missouri Negroes have experienced the same squeeze. Frustrated thus far at finding an equitable solution with their white colleagues, some Negroes are now looking to the courts for help.

AS REPORTED by Southern Education Reporting Service, Negro plaintiffs are tying desegregation of administrative staff and faculty to student desegregation suits. No ruling has yet been handed down, but no case has yet gone the full distance either.

The case that has proceeded the farthest is in Davidson County (Nashville), Tenn. U.S. District Judge William E. Miller ruled in favor of twelve Negro students seeking admission to all-white schools this year. However, he reserved judgment on a section of their suit which called for reorganization of the entire county school system on an integrated basis. Judge Miller thought the section was impractical at this time. But he added that present teacher assignment policies may in fact perpetuate the segregated system of public schools which the Supreme Court opposed in its 1954 ruling. Judge Miller agreed to review the question after a reasonable period of time elapses.

In October, 1960, a suit in Chattanooga, Tenn., to eliminate racial considerations in assigning teachers and administrative personnel was struck down by a federal judge. But at least four communities have similar suits pending: Durham, N.C., Escambia County (Pensacola), Duval County (Jacksonville), and Volusia County (Daytona Beach), Florida.

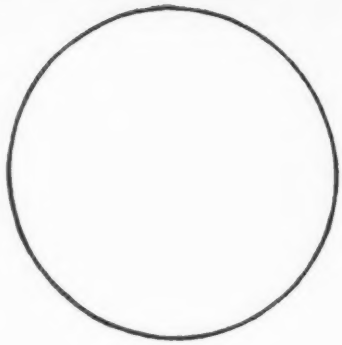
Again, it is significant that Negro teachers and administrators are not bringing up these actions. In all cases the plaintiffs are Negro parents. They are being assisted by the National Association for the Advancement of Colored People, which is the moving force behind the integration battle through the courts. Jack Greenberg, assistant director of the NAACP's Legal Defense Fund, says the school personnel clause should be part of all future school integration suits. Greenberg has noted sympathy with this point of view among judges and expects a favorable, precedent-setting ruling to come soon.

The absence of Negro or white educators in these legal matters has had a positive effect, however. Because they are not enmeshed in court actions, they have more leeway to solve their mutual problems in a more informal yet a more professional way.

"In the long run," says a leading Negro educator, "the solution to finding more opportunities for Negroes in education has to be worked out in the schools. And it should be worked out by schoolmen, not lawyers. We won't be doing very much for our children, if we spend all our time in court." ●

HIGHER EDUCATION'S PARA-CAMPUS

by Walter Webster Argow



Through its "second campus," the university extends its services

THE AMERICAN university, say some classicists and foreign critics, has gone all to leaf with an overgrowth of "side" services. Though there may be some bizarre offerings here and there, in the main, expansion of academic services has been part of the normal process of maturation. They reflect the institutions' keen awareness of community needs.

Yet, no aspect of university operation has been more vulnerable to criticism than those grouped under the title of "extended services," for the reason that these services have veered most widely from the traditional path of education. We don't belittle the value of solid foundations—the special purview of higher education—when we argue that advanced learning is part of our great American dream of opportunity for all. Towers for scholars yes, but why not also blackboards in the market place?

To the administrator, the crux of the question of expanded services is the adequacy of facilities and funds. Although most colleges have to tighten their belts occasionally, they seem to be able to expand their service programs without bending the budget too badly. In fact, those institutions which have been able to add services without deteriorating their programs are those which begin with a solid liberal arts core.

The extension of educational services is, as one would expect, most intense in the tax-supported institutions. Public education is a creature of public demand; the educational administrator cannot long ignore the taxpayers' educational needs and expect to remain their friend when it comes time to allocate funds.

In one state, for instance, it was the dairymen seeking to improve their livestock and forage crops that opened the door to expanded services. In another, it was the farmers in search of ways to stretch their growing season and find better methods of farm management. Still other requests have come from industrialists (to research labor-management problems) and from women's organizations (help on child care and ways to use their new leisure).

But perhaps most numerous of all have been the men and women well beyond the usual college age seeking to improve their vocational status or to fill in the gaps in their education. These students are seeking no degrees and may never even want academic credit. But they hunger for knowledge just the same, and they, too, are part of the university's "community."

What, then, do we say to the traditionalist and the classicist? The answer may lie in a definition of the needs to which a college can be expected to respond. Archibald MacLeish adopts what might be called the socio-anthropological approach. Asking the question, "What Is a True University?" (*Saturday Review*), he writes:

"The service of the nation may have been an adequate educational goal fifty years ago when nation and community were more or less the same thing, but today, when the old American conception of the human community is one thing and the new American nation is very rapidly becoming another, 'The American University' must define its purpose for itself. It must choose the needs it proposes to satisfy, not on the basis of the Defense Department's priorities, but on the basis of the character of the community, which it is the University's duty to preserve and transmit."

If this argument can be legitimately run backward, some universities and colleges, judging by their programs, hold a strange view of the community's character.

TO GET a picture of what some of our leading institutions are offering in the way of community services, I checked the reports compiled periodically by the National University Extension Association. Here is a run-down of university services offered over the past four years:

Extended Day and On- and Off-Campus Programs. This is the most common type of community service. So great is the variety of subjects offered that no typical program can be described. The sole determining factor in deciding to offer a course seems to be whether enough people want it to make it pay.

Correspondence and Home Study Courses. This is still one of the foundation stones of the community service program. Course registration has grown, even though the number of institutions offering this service has not.

Conference and Institute Planning. The number of conferences and institutes run by public and private organizations has grown tremendously in the last few years and these groups have turned to university social scien-

tists to help them plan and conduct the business effectively. Some universities also have an aggressive university-sponsored institute program. [See special *Calendar* listing in this issue, page 16.]

Audio-Visual Communication. The larger universities and colleges now have extensive libraries of films, filmstrips, recordings, and other teaching aids. These are used to some extent in the classrooms; but they are also available to community groups, usually on a low-cost rental basis. Though this service presents a maintenance problem, the extent of use indicates a need which is sufficient enough to justify the service.

Community Organization and Development. It is now common for foundations and government groups to call upon universities to institute and manage a variety of educational (as distinct from research) projects. Some, for example, operate a summer camp as a student-training and delinquency-prevention project, conduct travel tours in this country and abroad, operate a settlement house for training purposes, operate a psychological testing service, etc.

Exhibits. For many years, universities have constructed scientific, cultural, and educational exhibits. Some colleges have kept them on the premises; others are now loaning them to museums, community centers, and schools. One university has even constructed an historical exhibit in a trailer and put it on state tour.

Lecture and Concert Booking. Perhaps no university service is more readily accepted by both faculty and taxpayer than the booking of staff for public concerts and lectures. [See *Communications Clinic,* page 57.]

Library Services. Much of the information housed in university libraries is not available to the general public from other sources. So, imaginative librarians with a strong community service motivation are finding ways to provide for and even encourage the broader use of their facilities. This is done by a referral service to local public libraries, by issuing stack privilege cards to responsible taxpayers, and by offering a bibliographic reference service. Allied here is the community forum service: packets of information on a variety of topics are collected by the forum staff and made available to the community organizations holding discussions on the subject.

Radio and Television Programming. By last report, twenty-three institutions operate their own radio stations and thirteen their own TV stations (six on a closed-circuit basis). Many more have regular programs on time allotted to them by local educational or commercial stations. One institution with an active educational television program buys time at a special rate and permits local sponsors to help finance it as a public service.

Workshops and Forums. These are similar to conferences and institutes, and are therefore usually handled by the conference planning staff. Occasionally they become a development of the extended-day division.

Festivals and Dramatic Presentations. A university staff is often asked to help produce festivals and plays for high school and community groups and to handle statewide musical, art, and debating tournaments. One university has worked out an unusual statewide community theater project to lend talent to little theaters.

Miscellaneous Services. Film Presentation—programs of foreign, classical, or educational films shown in university theaters. *Technical Consulting Bureau*—set up to handle requests for technical advice from industrial groups. *Student Volunteer Service Bureau*—set up to encourage, and regulate, student participation in community service activities. *Publications Service*—publication of books and pamphlets by university presses and provision of printing services to community groups.

TO READ the annual reports of extension divisions is to marvel at the creativity of the persons responsible for the programs. In fact, community services have expanded so far in some institutions that the definition of higher education is stretched to the point of redefinition. Indeed, lacking a clear definition of community service, who can determine what should be included in the university's program and what sternly rejected as not college business?

In these times of sharp competition for public support, the university administrator must look carefully to his definitions. What in educational television, for instance, is learning and what is entertainment? And how much of the latter can be justified as public relations? Because these qualities rarely occur in a pure state, at what point does he bestow the stamp of sterling? Decisions made on these grounds reveal the top administration's concept of education—a concept far too often impervious to community pressure.

At the other extreme is the institution which offers any kind of service so long as it pays off. Somewhere in between, on firm ground, is the college with a quality program which is also well supported. The observation of Yale's President A. Whitney Griswold should prove illuminating to the administration and faculty just venturing into the thickets of community service:

"No educational institution . . . has been able to separate itself entirely from its community. In our democratic scheme of things our educational system will never be able to cut its umbilical cord to the society that gave it birth. . . . [It must have a faculty that] will be indispensable in producing the right community attitude toward the school because it will itself be part of the community. It will influence the community as fellow citizens, as partners in the educational process, as participants in civic enterprise." ("American Education's Greatest Need," *Saturday Review.*)

What a university offers in service to a community lingers in the public mind as convincing evidence of its sense of partnership in the civic enterprise. The community service program therefore helps to build constructive town-gown relations. From the educational philosopher's point of view, it bespeaks an appreciation of the fact that the university is itself woven into the social fabric. ●

Mr. Argow is consultant on community relations, Association and Foundation Services, Los Angeles. He was formerly director of community services with New York University and California Western University.

$3.6 BILLION FOR CONSTRUCTION

DESPITE THE recession economy, the American people last year provided the means for the construction of one new educational building every hour. The means: nearly $10 million every day. Praiseworthy, but the record shows it wasn't their best year.

While overall construction activity in this country increased by nearly 2½ percent in 1960 over 1959, educational construction continued to slump from its peak year of 1958 when over 11,000 school and college buildings went up at a cost of nearly $4 billion.

Total expenditure for educational construction in 1960 was $3,624,942,411 which built 8,930 school and college buildings. The $3.6 billion is up slightly from 1959, though the number of buildings is down.

By category educational construction ranked fifth in outlay for new construction last year. It was preceded by private residences ($16 billion), commercial and industrial buildings ($6.9 billion), highways ($5.7 billion), and public utilities ($5.4 billion).

Breakdown of 1960 construction within the educational sector:

While public schools accounted for 79 percent of the total number of new buildings, they spent only 72 percent of the $3.6 billion. College buildings, on the other hand, comprised only 13 percent of the buildings but 25 percent of the cost. Private and parochial schools: 5 percent and 2 percent, respectively.

Within public school construction, elementary schools continued to head the list as they have since the post-war boom in school construction began. Over 4,000 elementary schools were built at a cost of just over $1 billion. Only half as many secondary schools were built but at a higher total cost: $1.4 billion.

These and the following findings are taken from the twelfth annual school building survey conducted by *The American School and University,* OVERVIEW's sister publication. The complete survey is reported in the 1961-62 edition of the yearbook to be published this summer.

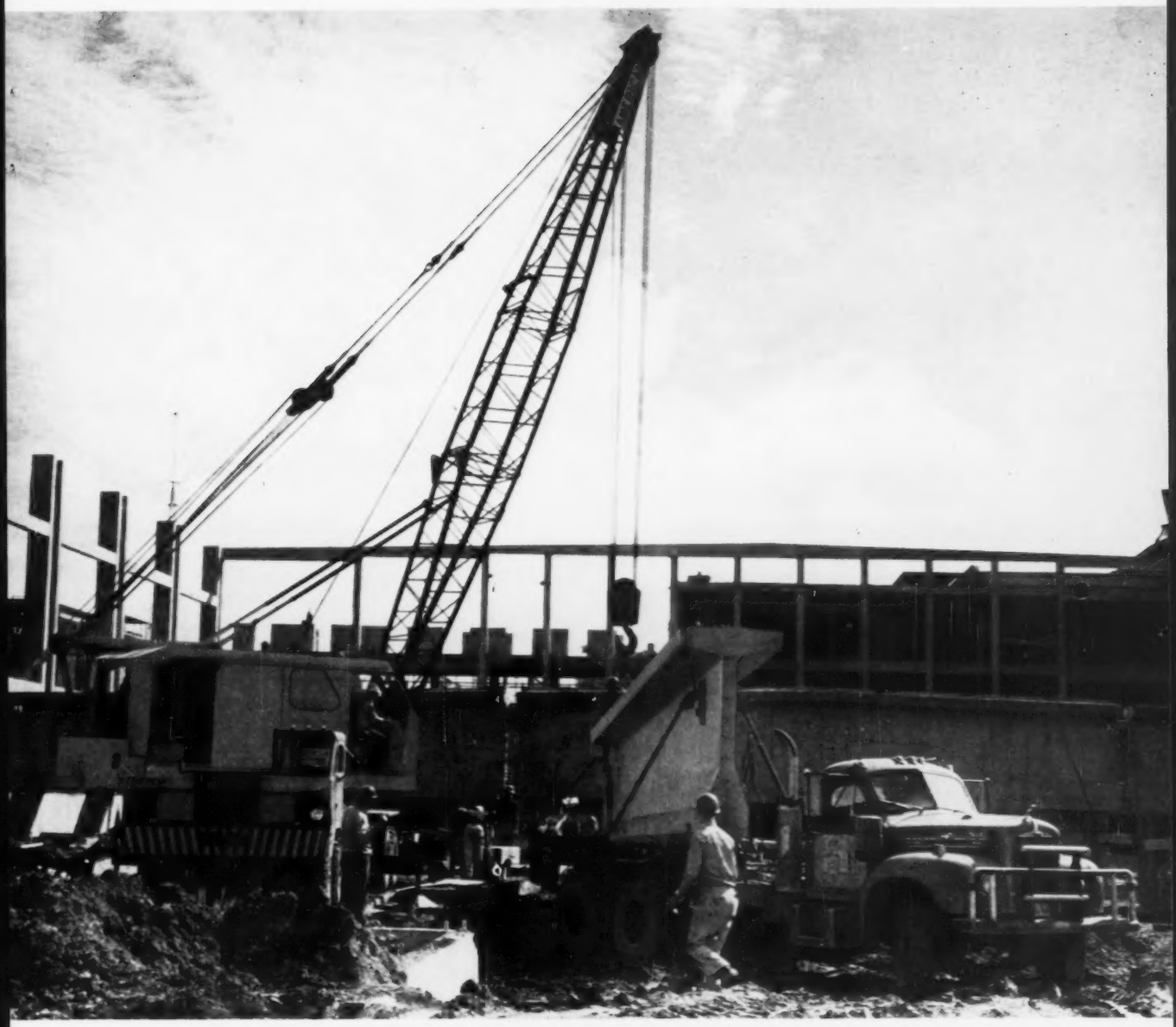
Some comparisons in the 1960 survey:

- The South lags in the number of buildings (25 percent of total) and expenditures (17 percent of total) as against its children of school age (30 percent).
- The West leads in the number of buildings (24 percent) and expenditures (22 percent) as against its number of school-age children (15 percent).
- Public education built 22 percent fewer schools than in 1958 and nearly 5 percent fewer than in 1959. It spent 15 percent less than in 1958 and under 1 percent less than in 1959.
- For every dollar spent on construction, less than 10¢ more was spent on equipment and furnishings.

The data gathered in the building survey were analyzed to reveal regional and state achievements, construction activity by type of system (public, private and parochial, college, and junior college), ratio of equipment to construction costs by type of building, site and building sizes, and trends in air conditioning and heating systems. The highlights follow:

Regional change. Educational construction in 1960 compared with 1959 shows up some interesting variations among the five regions in the country.* The South held steady in private-parochial and college building, but dropped in public school and junior college construction. New England increased its private-parochial and junior colleges, held steady on public schools, and went down slightly on colleges. Central states expanded their private-parochial, held steady on public and junior college, and dropped slightly on college construction. Middle Atlantic region increased all construction except public schools. The West increased its private-parochial and public school construction, but dipped in college building. Only the Central states and the West noticeably increased overall construction—each region put up about sixty more buildings in 1960 than in 1959.

* **South:** Ala., Ark., Fla., Ga., Ky., La., Miss., N. C., S. C., Tenn., Tex., Va., W. Va., **New England:** Conn., Me., Mass., N. H., R. I., Vt., **Central:** Ill., Ind., Ia., Kans., Mich., Minn., Mo., Neb., N. D., Ohio, Okla., S. D., Wisc., **Middle Atlantic:** Del, Md., N. J., N. Y., Pa., D. C., **West:** Alas., Ariz,. Cal., Colo., Hawaii, Idaho, Mont., Nev., N. Mex., Ore., Utah, Wash., Wyo.



Familiar scene on America's educational landscape, enacted 8,930 times last year.

Ranking of the states. Three seaboard states—California, New York, and Pennsylvania—led the nation last year in educational construction expenditures. California was way out in front in number of buildings, putting up a third more than runner-up Texas. This phenominal activity on the Coast—two and a half new school buildings every day last year—is the logical outgrowth of the Golden State's population explosion: between the 1950 and 1960 census, California's population increased by more than half; the state now leads the nation in school enrollments; and its enrollment increases average 5 percent each year. (Small wonder, either, that California now tops New York in membership in the American Institute of Architects.) The eleven highest-ranking states last year, in both buildings and dollars, were:

California	which built	899	buildings	at	$349,341,927.
New York	" "	382	"	"	303,901,066.
Pennsylvania	" "	418	"	"	281,398,206.
Michigan	" "	411	"	"	195,663,224.
Illinois	" "	471	"	"	182,046,886.
Ohio	" "	386	"	"	170,371,167.
Texas	" "	609	"	"	161,886,827.
Indiana	" "	323	"	"	150,422,309.
Washington	" "	323	"	"	117,738,092.
Massachusetts	" "	202	"	"	109,970,696.
New Jersey	" "	192	"	"	103,852,009.

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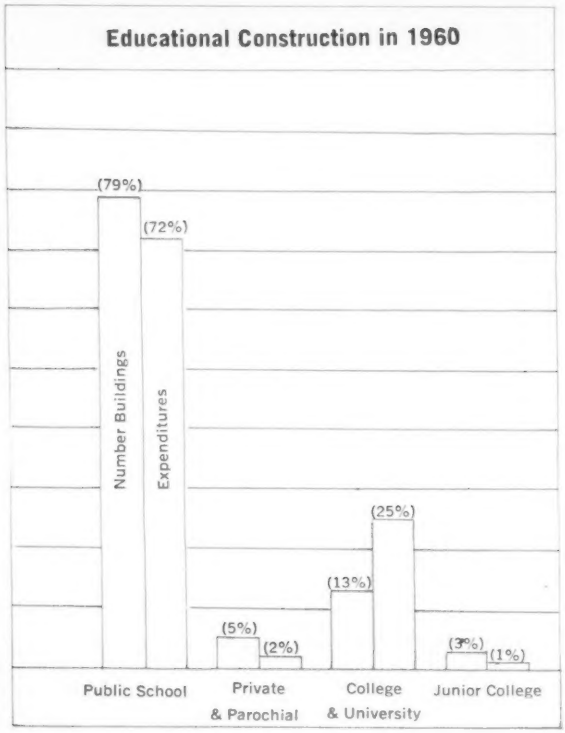
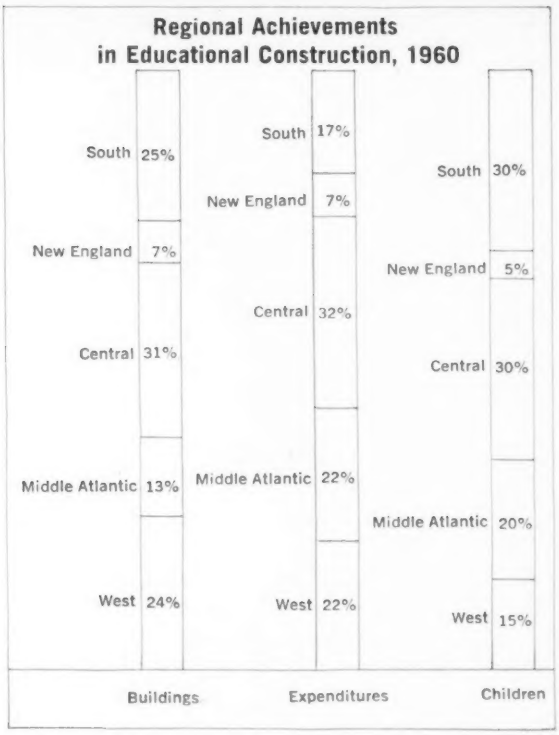


Total number of buildings: 8,930. Expenditures: $3.6 billion. College construction is proportionately the costliest.



West leads and South lags in numbers of new buildings and expenditures as against numbers of school-age children.

Amount Spent on Furnishings & Equipment For Every $100 Spent on Construction

Elementary schools:	$ 8.00
Secondary schools:	11.20
Total public schools:	9.80
College* physical education buildings:	6.70
College dormitory-residences:	7.90
College academic classroom buildings:	12.30
College libraries:	13.10
College engineering buildings:	24.00
Total colleges:	11.60

*Including universities and junior colleges.

Ratio of equipment to construction costs was 10:100 overall. Equipment costs added $333 million to $3.6 billion tab.

Public schools. In 1960, 7,045 public schools were constructed at a cost of $2.6 billion. By type of school these figures broke down as follows: 4,214 elementary schools, $1 billion; 2,326 secondary schools, $1.4 billion; 154 combination schools, $57 million; and 351 miscellaneous buildings (gyms, garages, etc.), $54 million. Furnishing and equipping the public schools added an additional $255 million to their outlay. Ratio of furnishing-equipment cost to construction cost was 8:100 for elementary schools and 11:100 for secondary schools. Average ratio for total public schools was 9.8:100.

Private-parochial schools. The nation's private and parochial schools added 481 buildings to their number last year. Of these, 205 were elementary schools, 180 were secondary, fourteen were K-12 schools, and the remaining eighty-two were gyms, residences, infirmaries, dining halls, etc. The majority of them—125—were built in the Middle Atlantic region, 111 in New England, 102 in the Central region, eighty-one in the South, and sixty-two in the West. Construction outlay for these schools totalled $95 million.

Colleges. College buildings increased in number by 1,179 last year at a cost of $866 million. Greatest numbers went up in the South (346), Central states (284), and the West (232). More than a third of these buildings (424) were dormitory-residences. Next in order were science buildings (152), classroom buildings (90), libraries (61), and student centers (58).

Junior colleges. Smallest piece of the school con-

Five-Year Summary of Educational Construction

Total Number of Buildings	10,075	9,689	11,299	9,301	8,930
Public School	8,211	7,841	9,190	7,379	7,045
Private & Parochial	546	721	625	397	481
College & University	1,012	919	1,237	1,217	1,179
Junior College	306	208	247	308	225
Total Expenditures	$3,214,374,596	$3,420,509,334	$3,950,147,812	$3,572,226,922	$3,624,942,411
Public School	2,547,572,920	2,645,310,685	3,052,118,294	2,619,966,173	2,591,878,767
Private & Parochial	104,444,783	169,426,998	122,497,424	63,409,391	95,380,768
College & University	501,754,331	555,779,874	718,155,613	799,834,872	865,979,869
Junior College	60,602,562	49,991,777	57,376,481	89,016,486	71,703,007
	1956	1957	1958	1959	1960

Construction has dropped steadily since 1958. Peak year for private-parochial schools was 1957, for junior colleges, 1959. Building costs for higher education have risen each year despite the construction decline. The general drop in construction may be due to a gradual depletion of local financial resources or to time-biding for a federal support program.

struction pie is the junior college which grew by 225 buildings last year, at a cost of $72 million. Greatest effort was in the South (90 buildings), with an average of forty each in the Central, Middle Atlantic, and West. Except for academic classroom buildings, the college pattern is repeated with dormitory-residences (67), science buildings (26), libraries (23), and student centers (21) heading the list.

Ratio of furnishings-equipment cost to construction cost was higher in college and junior college buildings than for public schools, averaging 12:100. It varied widely, however, 24:100 for engineering buildings; 15:100 for student centers; and 7:100 for physcial education buildings.

Sites. Average size of public school sites is sixteen acres, ranging from twenty-six acres for secondary schools to eleven acres for elementary. Sites averaged $2,865 per acre.

Square footage. Average building area of the new public schools is 29,368 square feet (21,000 for elementary schools; 48,000 for secondary). Average size of college buildings is 41,674 square feet, ranging from 54,000 for engineering buildings, 32,000 for libraries, to 22,000 for theaters.

Fuel. Half the new public schools use gas (more than that in the West and South), but only 1 percent in New England. A third heat with oil (except in New England and the Middle Atlantic region where it is used predominantly). One-tenth burn coal (more in the South than elesewhere) and the remaining 5 percent use electricity, a combination of gas and oil, wood, or sawdust (the latter two particularly in the lumber regions of Oregon).

Air conditioning. Forty-two percent of new higher education facilities have full or partial air conditioning. Against that, 18 percent of public schools are air conditioned. Regional breakdown for the latter: West, 21 percent; New England, 20 percent; Central, 17 percent; Middle Atlantic, 14 percent; South, 9 percent.

DESPITE THE enormity of educational construction figures for 1958, '59, and '60—nearly 30,000 buildings costing $111 billion—they don't quite square with another set of figures: the enrollment rise over the same period.

Between 1958 (the peak construction year) and 1960 there was a 20 percent drop in the number of new buildings (though only an 8 percent drop in money spent to construct them). Over the same period the nation's total school and college enrollment increased 7 percent. That construction should drop while enrollments continue to climb might be explained by two factors: either localities neared the end of their financial resources; or they began the waiting game to see if the Federal Government would step in with a construction-aid program. If the Kennedy plan gets through Congress this session [see *From Washington,* page 29], a building analysis of the next several years should show the construction and enrollment lines running parallel once again. ●

Wide World photo

Agnes De Mille on Theater

Education for Creativity Second of Four Conversations

Agnes DeMille burst on the American theatrical scene with her choreography for Oklahoma!, *the first musical comedy to fuse folk dancing and ballet. A* cum laude *graduate of the University of California, Miss DeMille began as a dancer and went on to win plaudits as a choreographer of ballets, musicals, and films. She has helped educate the public on the dance through her series of "Omnibus" television programs, her books* Dance to the Piper *and* And Promenade Home, *and her cross-country lecture tours. Subsequent issues of* Overview *will carry the conversations of Poet Langston Hughes and Composer Norman Dello Joio.*

History teaches us an interesting lesson: few cultures have survived long that didn't have a living theater. We have not kept up with other countries in developing our national theater. We have a lively commercial theater but no state or national theaters to preserve the best of our achievements. All theatrical productions are hit-and-run and lost as soon as finished. There is danger of our living heritage in all performing arts disappearing completely. Even the new African countries are ahead of us. As a nation we do not sustain our arts. We never have. This is partly because of our Puritan tradition. The early Pilgrims banned art: the expression of it and the enjoyment of it were looked on as the

devil's work. As an emotional release they practiced witchcraft instead.

The first few generations of Americans were too busy just staying alive. Later, after they had conquered the wilderness, they went about getting as rich as possible. The arts were considered sissy and a waste of time. Yes, they bought Titians, but as an "investment," not for enjoyment.

Today the hunger pangs for something more satisfying than material advantages have begun to set in. But not enough—not *nearly* enough—is being done to encourage our talented young people in the creative arts. The foundations are trying to help, but they're spreading their help too thin and they're going about it too timidly. They'll pay any amount of money for a survey, of course, but surveys we don't need. I can tell you in a word what's wrong with the arts in America: they're starving to death. . . .

Our federal and state governments and private business could do a lot more to help develop the nation's creative talent. Two states have made interesting starts in this direction. New York's Governor Rockefeller has set up an Arts Commission with artists from every field serving on it. He's asked the legislature for $750,000 for upstate and New York City art groups to tour the state's communities and schools. Michigan, with Wayne University's help, is surveying every kind of artistic group in the state—folk singers and all—to see what talent it has right within its borders.

The schools and colleges have already begun to move in this direction, but I think they're going at it backwards. Educational theaters are springing up all over the country; I've seen many of them on my lecture tours. They're beautiful little theaters with art galleries attached and stage lighting boards and dressing rooms the like of which I've never seen in my life, even at London's Covent Garden. The architects are having a field day designing them. But these aren't Theater any more than palaces are Government. A beautiful theater is just a happy container. What's lacking is *performance*. Yet, all you need for a performance is a space where someone with something to say—can say it. The space could be a sidewalk. Costs? Students don't cost anything. They have their whole lives to give and they would do it eagerly. . . .

I was in Detroit recently where they're spending a lot of money on theater facilities. I told them, "Get a genius —in any field. Give him your flag to carry, put your money behind him, and listen to what he says. He'll surround himself with creative people and give you the kind of creative environment you want. Build him a theater *later*." But they built a theater first and there's nobody of any significance in it.

The University of Minnesota is one institution that has put first things first. They signed up Tyrone Guthrie to head their theater department. Dr. Guthrie is a great director [London's Old Vic, Canada's Shakespeare Festival at Stratford, and Broadway] and a man of genius. He's taken a professional group out there with him and —you watch—he'll build a superb professional theater in Minneapolis. His students will learn theater in the only way they can—not under adult amateurs but under a master in professional productions.

There are many professional people who would welcome this kind of opportunity. They now lead gypsy lives. But let someone like Dr. Guthrie establish a theater and pretty soon you'll have young designers, young playrights, young directors flocking to work with him. And eventually you'll have other theaters springing up around the area, staffed with young people who have been trained under professional conditions. . . .

Right now all our theater talent is clustered in just two cities—New York and Los Angeles. That's where theater hopefuls must go if they want to work professionally, even though there isn't nearly enough employment for all of them in these two theater-cities. Yet the rest of the country is theater-starved. There's the irony.

If schools and colleges were to invite some of the more talented of these people (and we have a lot of talent in this country—not much genius, perhaps, but a lot of talent) they could staff their theaters with excellent people. These are dedicated people and they don't demand much, just a reasonable income and artistically profitable surroundings.

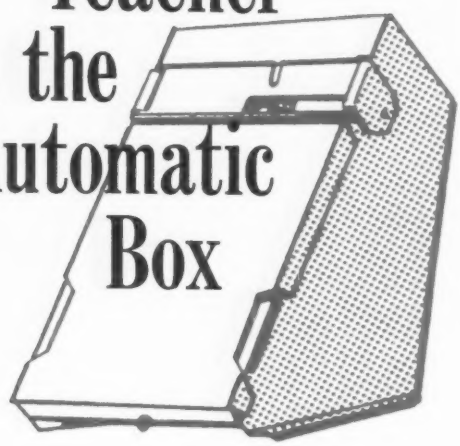
Two of our greatest dancer-choreographers have done this. Martha Graham supplemented her income by teaching at Sarah Lawrence and she loved it. Sybil Shearer is at Winnetka, Illinois, and says she'll never come back to New York. My husband's business is in New York, but I would join a faculty outside the city with delight if it would give me any scope. I would *not* go just to be part of a physical education department. This brings me to the dance, which is the aspect of theater I am closest to. Unless dancing moves out of the physical education department and stands on its own feet (pardon the pun) or moves into the theater department, it is doomed.

Dance training should be started early. Small children love to dance and it's good for them—boys as well as girls. I think all young children should be taught folk dancing (which is the basis of all dance—ballet is merely a sophisticated refinement of folk). It teaches them rhythm and bodily coordination and, more important, it teaches them discipline. (You'd be surprised how many adults can't follow square dance calls.) . . .

Americans are wrong for thinking that it takes only money to develop talent. It doesn't take money; it takes time. You can spend five million dollars and you won't make a first-class dancer in six months for the same reason you can't make a baby in two months just by paying an obstetrician a lot of money.

This emphasis on money is reflected in our whole system of education. We're bringing up children to be status-seekers and we're giving them very shallow goals to work toward—new cars, refrigerators, and trips to Florida. But youngsters—many of them—know that these things are meaningless; they are becoming increasingly dismayed at our adult values. They want artistic stimulation and a chance to try their creative mettle. Where really creative programs have been provided for them, exciting things have happened. I think this adds up to a tremendous challenge for educators. ●

The Teacher in the Automatic Box



Overview of the complex art of programmed learning—even with a simple machine

In Berkeley, California, a team of atomic scientists have just created and identified a new chemical component: element 103. They speculate it was around at the birth of the universe and then decayed well before Man arrived on Earth. In classrooms throughout the country, alert science instructors are writing "lawrencium" into slot no. 103 on the atomic scale.

This incident illustrates the pressure under which America's educational enterprise now operates. New knowledge is being developed in the arts and sciences at unimagined speed; and the speed with which it must be learned is just as great. Whole areas of curriculum are under constant review—mathematics, foreign languages, vocational training, home economics—and curriculum committees wrestle with the Heraclitean dilemma: what is up-to-date today will be obsolete tomorrow.

A variety of aids have been developed to enable the school to meet subject-matter changes with some degree of alacrity and versatility. Tape recorders, motion picture projectors, closed-circuit television, and analog computers have been enlisted by education. On the threshold is yet another—the teaching machine and its program.

The concept of the teaching machine is not new. Dr. Sidney L. Pressey unveiled it in 1926. His was a simple device, hand-cranked. It even had a touch of whimsy: a student who correctly answered a sequence of responses received a piece of candy from the machine.

Pressey, B. F. Skinner, Douglas Porter, and the other psychologists working in this vineyard, are essentially orderly men with a sincere dedication to knowledge. They are not obscure, but are frequently as lucid as their machines. Their reception, however, has not been as lucid.

First, what is a teaching machine? It is an efficient conveyor of a program. It does not teach by itself; it must contain a program. Hence, a machine is designed primarily for the programs it is fed and secondarily for the characteristics of the students who operate it.

Next, what is a program? It is a series of bits of information or tasks arranged in appropriate order, producing in the learner a firm, calculated response: a concept, a fact, an added bit of skill, an identification. The information must be so arranged that the student can move at his own speed and test his own progress.

Thus far, there are basically two kinds of programs: the Skinner program and the Crowder (for Dr. Norman Crowder) program. Skinner's is linear and behavioristic. Crowder's is non-linear, non-behavioristic. Thus far, both kinds have been proved valid as far as conveying information to the student according to principles of the psychology of learning.

The machines currently available, or in prototype, are reasonably simple. Skinner machines are boxes with windows, but have other refinements to accommodate small hands, busy teachers, etc. Crowder machines are more complex and usually need an electrical outlet. Neither kind of machine would frighten a teacher or a child. An administrator who has grappled with a highly sophisticated learning lab will clasp the homely teaching machine to his breast.

The basic idea behind the teaching (or learning) machine is the 1:1 tutorial system of teaching. It is a "personal teacher" for as many students as there are machines. It can convey as much knowledge as the school desires. Its information can be revised or its rate of teaching can be quickened through simple procedures. In short, teaching machines are another way of combatting the inefficiencies of a 1:30 teacher-pupil ratio at a time when knowledge—and the student population itself—is exploding.

Does this make the human teacher obsolete? Once again, that question gets a "no" for an answer. "There is, of course, no substitute for an inspiring teacher," says John Blyth of Hamilton Research Associates, makers of the Audititor and the Visitutor. "But it is by no means obvious that the alleged advantages of private *tutoring*—

the function of a teaching machine—have anything to do with an inspiring personality. Indeed, some private tutors have been notoriously dull!"

The teaching machine has, then, a small, *im*personal task to perform within the larger, personal context of education. Actually, that statement must be modified. It is the *program* which performs the task, not the machine. The program is the heart of the matter; the machine is the hardware conveying the program.

The program itself can be hand-written, typed, photographed, wired, dittoed, or mimeographed so that a teaching machine can accommodate tape decks, slide-film viewers, adding machines, typewriters, and other equipment. However, each piece of ancillary equipment must comport with the definition of a program. Unless the tape deck has a stop-start button which the individual student operates, the machine will not satisfy the "individual rate of progress" requirement. Unless typewritten responses can be immediately monitored for correctness, they will not satisfy the self-testing requirement. Loading up a machine with multiple equipment will sell equipment—but will not conform to what we know as "programmed learning."

P. Kenneth Komoski, president of the Center for Programmed Instruction, wonders if the hardware is even necessary. "It is my belief," he recently told the Independent Schools Board, "that existing machines can severely limit the very thing on which their future depends—that is, the art of programming." Komoski, as a programmer not a machine-maker, may be somewhat prejudiced; but most thoughtful leaders in this field would tend to agree on one thing: It's not the box, but *what goes into the box*, that is the key to this new development in learning.

FOR SO YOUNG a field, programmed learning has a goodly share of zealots who believe it is mankind's ticket back to Paradise. Among these are some manufacturers who advertise that their machines will "revolutionize" the classroom. A few educators have also been carried away; James McClellan of Columbia Teachers College announces that "teaching machines, properly programmed and properly used, are our best hope for education." Even with the qualification, this is strong (and, one might add, despairing) language. There are also those who are awed by the "mystery" of programmed learning. "We just don't know enough about it," is the frequent complaint, usually prefacing a request for foundation money.

A lot of rant is indiscriminately published and mailed to educators so that progress in programmed learning continues under some duress. However, brushing past the extremes, the educator will find that progress is, in fact, being made and *has been* made in programmed learning for a very long time.

Psychologists, educators, and manufacturers—the three groups with vested interests in programmed learning—have been conducting a variety of experiments for about twenty years. Most were carried on by the Armed Forces during World War II. At that time, a steady flow of new materials and practices was moving between industry and the military. The fighting man had to absorb them in record time: in five years Americans were whisked from the single-shot carbine to the atomic bomb. Every available teaching idea was tried out to speed the military training process.

When the war ended, industry found it useful to refine and adjust these training experiences to meet the demands of a business boom. Aircraft and electronics, in particular, seized upon the teaching machine idea to turn ex-GI's into competent mechanics, engineers, and operators. These early machines were (by present standards) large, primitive devices costing huge sums to build and program. Industry—and to some extent, the Armed Forces—sought out educational psychologists to do a job of streamlining. The task has been enormous, but so far quite fruitful. Today, the array of machines and programs, though still called "experimental," is impressive. Contrary to many detractors, it is a relatively mature and sophisticated array, also.

Teaching machines come to education, then, by a circuitous route. Although educational psychologists like Simon Ramo, Skinner, and Porter have been sowing in this field for a generation, their efforts have reached their colleagues in education via industry and the military. Looking back, Skinner ruefully notes, "Pressey's machines succumbed in part to cultural inertia; the world of education was not ready for them."

As a late-starter, education enters the field with certain advantages. Obviously, educators have been spared many of the labor pains of producing pioneer machines and programs. They have also been spared the huge costs of fabricating prototypes and publishing experimental programs. Now they can make purchases with certain contractual guarantees of service and performance. For example, an instructional materials center can buy ten machines at $80 each, with a warranty; it does not have to invest eight months and $15,000 to develop the machine. The center may buy ten programs at $12.50 each; it is spared the $50,000 overhead that went into writing and publishing the programs.

But education faces disadvantages as well. The needs of a high school or adult education class are different from those of an industrial training class. Student and instructor motivations are different. The vocabulary level is different and so is the rate of exposure of each new fact or concept within the program. Programmers with wide experience in military or industrial training are not, *ipso facto*, qualified to supply public school programs. Hence, it will take time until the needs of formal education are made known to the programmers and machine-makers.

Furthermore, the educator has secondary status in the field. The strongest voice in programmed learning belongs to the psychologists. (Subject-matter specialists—biologists, logicians, solid-state physicists—run a close second.) While the contribution of psychology to education is great, it has not been the sole influence in the development of learning. Psychologists are frequently unaware of many common experiences in the teaching situa-

tion which are decisive. Many administrators are almost intuitively alarmed by practices that have been given a thumping endorsement by their colleagues in psychology.

Also, the debate between the behaviorists and non-behaviorists in programmed learning can be frustrating to the educational administrator, and treatises on stochastic vs. recursive mechanisms are rather far down on his reading list. Some manufacturers are now coming to the conclusion—at last—that it might be wise to pull away from the internecine debates on educational psychology and spend more time in good schools with good teachers to see what a real learning experience is all about.

But the teachers have some learning ahead of them, too. Today's school and college instructors have had no experience vis-a-vis teaching machines. In this, the teacher-training institutions have been largely at fault.

The program is central. Yet the temptation is to build and sell machines with the idea that the teacher can write her own program. Both manufacturers and educators must be extremely cautious on this matter, for here is the real "threat" of the teaching machine. The machine and its program "threatens" our present way of preparing teachers to teach.

Teaching machines have brought out into the open a problem of increasing seriousness. There is a noticeable gap developing between the preparation of teachers and the preparation of teaching materials. Increasingly, the responsibility for effectively conveying knowledge to students in an orderly fashion is being left to commercial enterprise. Teachers are becoming well-versed in how to open, pull down, or plug in a conveyor of information; they are less well-versed in how to prepare the information themselves.

The program brings this into sharp focus. In some ways it is a refinement and a sophistication of the daily lesson plan. Yet less and less attention is given to the skills of preparing lesson plans and few prospective teachers have ever been carried beyond lesson-plan formation. The administrator planning to purchase a bank of teaching machines for his school or college must take a hard look at his staff. How many know how to organize subject matter in an orderly, meaningful way? How many can break down information into its component parts? How many can match the experts in writing tests, introductions to units, slide scripts, study outlines? How many are impeccable in grammar, spelling, and organization? How many use vocabularies suited to their students?

These are not idle questions. They must be honestly asked and honestly answered by the administrator.

But first the administrator—along with his friends in business—must define the two-headed beast itself. At this stage, it is not clear whether education will be buying machines or books when it takes on programmed learning. But, then, the educator has not been asked his opinion yet. Still, he must know in order to justify the expense and distribute the material among those of his staff who should use it. To the administrator, this is a nagging problem. To the machine-makers and programmers it is the clog in their sales line.

At the winter Western Conference of the National Audio-Visual Association, Planning Chairman Richard Utz made the obvious conclusion for his group: "Not since language laboratories has a new A–V product caused the stir among educators that teaching machines have. . . . Like it or not, what we do today about these devices will profoundly influence our role tomorrow in this potentially enormous market." Paul B. Boisen, in a special report to members of the National School Supply and Equipment Association, wrote that "Both attention and interest in the teaching machine seemed to have reached a position where its acceptance as a tool of learn-

Good and Bad Programming

EDUCATORS AGREE that programmed learning is only as good as the program. But what makes a good program? The fact that a student answers programmed questions correctly, says Francis Mechner (director of Basic Systems, a professor-staffed instructional programming company in New York) doesn't necessarily mean that he has learned what the programmer intended. He cites the following good and bad examples:

1. COWS ARE MAMMALS. COWS ARE ——. Here the student merely copies the word "mammals" because of the parallelism between the two sentences. Better question would be: COWS ARE MAMMALS. WHAT ARE COWS? —— Or: COWS ARE MAMMALS. TO PUT IT ANOTHER WAY, COWS ARE ONE EXAMPLE OF ——.

2. COWS ARE OFTEN BROWN. HORSES ARE ALSO OFTEN ——. Here the student is cued by the word "also" and automatically copies the previous successor of "often." Better would be: COWS ARE OFTEN BROWN. SO ARE HORSES. HOW DOES THIS MAKE COWS AND HORSES SIMILAR? Or: COWS ARE OFTEN BROWN. HORSES TOO ARE OFTEN BROWN. IN OTHER WORDS, BOTH —— AND —— ARE OFTEN ——.

3. THE PLANETS ORBIT AROUND THE SUN. THE EARTH IS A PLANET. THE EARTH ORBITS AROUND THE ——. The student is cued by the words "orbit around the" and doesn't have to read anything else in the frame. Remedies might be: THE PLANETS ORBIT AROUND THE SUN. THE EARTH IS A PLANET. THEREFORE THE EARTH —— —— —— ——. Or: THE PLANETS ORBIT AROUND THE SUN. THE EARTH IS A PLANET. WHAT CAN WE THEREFORE SAY ABOUT THE EARTH'S MOVEMENT IN RELATION TO THE SUN?

The student, says Dr. Mechner, should be able to assume that if he responds correctly, he has learned the relevant material and can progress securely.

ing may be quickly realized. The NSSEA members should be alert to this new development." Both NAVA and NSSEA are fairly certain that programmed learning belongs in the category of equipment. There is much evidence to support them. Equipment-makers like Rheem Manufacturing, Bendix, Thompson Ramo Wooldridge, and Hughes Aircraft are already deep in the field. All told, there are about thirty companies who have either a marketable machine or a prototype to talk about. Present equipment ranges from the $7.50 Vertimask, a vinyl page-sized shield produced by Dynaslide, to the imposing Autotutor, a $5,000 machine produced by U.S. Industries' Western Design Division.*

Several small companies have been started with some success. Typical is the one-man Koncept-O-Graph company. Owner Raymond Hartjen, a school psychologist, looked around for a machine for a research project. "I could find nothing to fit my budget," he says, "to do the job I wanted done. I sat down and designed by own unit, built eight more models by hand, and ran tests in a Rochester, New York, school. What I learned from this trial run I put to use in turning out the first production models." The molded plastic Koncept-O-Graph sells for $32 and is already competing with Rheem's league-leading Didak. "On the basis of orders we've received, we will have a difficult time keeping pace with demand," Hartjen happily reports.

However, programmed learning is not the exclusive province of the machine-makers. Even U.S. Industries has joined forces with Doubleday & Co. to publish TutorTexts, "scrambled books" developed by USI's resident expert, Norman Crowder, leader of the non-behaviorists. Thus, USI markets both its Autotutor at $5,000 (fourteen recently sold to the U.S. Air Force) and, through Doubleday, its TutorText at $3.95.

Also straddling the machine–book chasm is the Grolier Society, publishers of The Book of Knowledge, Encyclopedia Americana, and other reference books. Grolier house-to-house salesmen carry a door-opener called the Min-Max, a $20 machine of the Skinner variety which takes a Grolier program ($7.50 to $15) in music, French, algebra, and a handful more. To prepare for the school market, however, the Min-Max is undergoing classroom tests in Albuquerque, N. Mex. schools, headquarters of Grolier's Teaching Materials Corp. "We won't have a good story to tell school people until the fall," says Grolier Vice-President Theodore Waller. Recovering from a false start last winter, Waller's group is now approaching the million-dollar school market with caution.

Another reference book giant, Encyclopaedia Britannica, has been deep in programmed learning for some time. Relying on somebody else's machines (notably Foringer's), EB's Films division has been moving steadily into program publishing. The company underwrote the successful Roanoke, Va., experiment in programmed algebra and has announced to the trade the formation of a special EBF office to distribute its growing catalogue of programmed learning materials.

Both Grolier and EBF are conspicuously soft-spoken about their materials for one very good reason. A misstep in the new programmed learning field could cost either one a sizeable portion of the annual $305 million reference book market.

Other publishers are also poised to enter what they consider a book—not a machine—field. Harcourt, Brace & World, Houghton Mifflin, D. C. Heath, and McGraw-Hill are talking about it. Prentice-Hall and Litton Industries have just signed an agreement to "jointly develop, produce, and market teaching machines and related educational materials." Most observers expect the book people to go into high gear this fall. Austin McCaffrey, executive secretary of the American Textbook Publishers Institute, has been showing up at most of the important programmed learning conferences of the past year, an indication of heightened interest among the members of his organization.

Thus, the educator is faced with a question of some significance: is "it" a machine or a book? The current debate between machine-makers and publishers will undoubtedly be echoed in schools and universities, where audio-visual directors will be vying with librarians for control of this brand-new material.

RUNNING THROUGH all this is a recurrent note of "experimentation." Certainly experiments are still needed and most programmers are on the lookout for good host schools. Right now experiments are underway at such diverse places as Harvard, Eastman Kodak, Roanoke City Schools, the Los Angeles Fire Department, and the U. S. Post Office. And, as could be expected, "experimentation" is becoming a fetish to some in the field. Psychologists, hungry for statistics, translate trial-and-error into percentages as if to satisfy a need of their own profession rather than a need of the whole of education. ("Fifty-six percent more learning took place in 42 percent of the time.") Manufacturers conduct "experiments" that border on the inane to satisfy their own requirements. ("Tests show that left-handed knobs are needed in two out of ten cases.") Some companies are too conscious of needing a cloak of professional respectability for their machines and they soberly publish the most inconsequential "research" in learned-sounding brochures. One maker of Skinner machines has published a directory of "persons interested in, and/or actively engaged in the field of automated teaching." Curiously, Norman Crowder is not listed.

Education is one of this country's biggest blocs of purchasers. A billion dollars of NDEA funds, several millions from foundations, more millions from state aid and private grants add up to an enormous market potential for new things and ideas. Currently, teaching machines and programmed learning stand out as demanding a big share of education's money. What educators in schools, universities, and industry must quickly decide is what programmed learning is and how much it is worth. There are many others who are only too willing to make the decision for education. One is inclined to recall Ralph Waldo Emerson's remark of long ago: "Things are in the saddle and ride man. . . ." ●

* Machines shown on pp. 63-65; circle OV-401 on reply card for full data.

MAINTENANCE

Time to Check Your Pavement

Except for heavily-trafficked streets, blacktop paving needs periodic coating to halt drying of asphaltic binder.

THIS IS THE season to check blacktop surfaces on parking areas, streets, and playgrounds. By late spring the frost is out of the ground and winter damage can be assessed. And summer months are the best for repair operations.

Blacktop (asphaltic concrete) is a compacted mixture of asphalt, sand, stone, and inert fillers which is applied to a graded and compacted base. The asphalt acts as a cementing or binding agent.

From the moment blacktop is laid, it is subjected to oxidation and a gradual drying out of the asphaltic binder. When it is mixed and used according to specification, asphalt has a plastic quality which is kept "alive" by the kneading action of traffic. But blacktop on areas which take little vehicular traffic must be protected from drying out by periodic painting or coating.

There are three types of emulsified coatings: asphalt, coal-tar pitch, and acrylic.

Emulsified asphalt, which requires only one coat, is the least expensive of the three. It is recommended for blacktop playgrounds but not for parking areas because it is not an effective barrier against gasoline and motor oil drippings which dissolve the asphalt binder.

Coal-tar pitch emulsion, which must be applied in two coats and lasts about twice as long as emulsified asphalt, is recommended for parking areas because it protects paving from the dissolving effects of dripping gasoline and oil.

Acrylic emulsions (two coats, also) are relatively new and the most expensive of the three. They give a tougher and more attractive finish (they're available in colors like grass-green) and are becoming a popular protection for paved tennis courts. They also provide a cooler surface since they reflect some of the sun's rays.

Normally a three-year cycle for coating blacktop surfaces is adequate. Areas that have been neglected may need coating every one or two years until surface again shows signs of being "alive." Reminder: asphalt applied to the surface will soon wear off the tops of the stones in the asphaltic concrete, but the asphalt beneath will remain to provide necessary protection to the original binder.

Normally, two men working an eight-hour day can clean and apply the required two coats of emulsified tar coating to an area of from 2,500 to 3,700 square feet, depending on how much cleaning is required. The lower figure is based on 50 percent of the time being spent to clean the surface thoroughly (this is important—coating will not adhere to a dirty surface). Material is applied at the rate of one gallon per 100 square feet (2,500 sq. ft. will require fifty gallons for two coats).

A two-man crew in one day can clean and apply one coat of emulsified asphalt coating to an area of 5,000 to 6,000 square feet. This is also applied at the rate of one gallon per 100 square feet.

Cost of emulsified tar coating, packed in 55-gallon drums, averages $1.50 per gallon; emulsified asphalt coating averages $1 per gallon. These costs vary with location of school. Truckload purchases for larger areas would bring these prices down.

As noted earlier, campus streets do not need coating since the traffic keeps the asphalt binder "alive." But curb lanes don't get this kneading action and should be coated originally with emulsified tar coating. Heavily-travelled streets, however, will wear down in thickness and in time will need a surface treatment. This is a job for a contractor who is equipped with a distributor for spraying a form of rapid-setting emulsified asphalt to be followed by an application of rock chips rolled with a five-ton roller. This produces a wearing surface about ¼-inch thick which should last ten years or longer.

The administrator who has neglected his blacktop areas may find that they are too far gone to save. In this case he is advised not to waste money on coating but to call in a blacktop contractor to repave the area.

But frequently only small patches need repaving. The fault here may not be lack of care but improper construc-

By John Danner, sales manager with Emulsified Asphalts, Inc., Chicago.

tion in the first place. Such areas must be dug out making sure all soft mud or clay is removed down to a depth of six inches. The hole is then refilled with stone and tamped and rolled to a solid compaction to within two inches of the surrounding area. The remaining two inches are then filled with cold patch and tamped and rolled. Measure the areas and figure that twenty pounds of cold-patch mix will be required to fill one square foot to a depth of two inches. (Check with the local gas service company or county road superintendent for a nearby source of cold patch.) Patching should be done at least two or three weeks before coating to allow sufficient time for patches to oxidize.

Blacktop coatings will not prevent cracking but they do help to minimize shrinking which is one of the causes of cracking. Asphalt binder loses some of its plasticity as it ages and starts to crack as it shrinks. These cracks must be sealed to prevent further drying out.

Another cause of cracking is a movement in the base which is transmitted to the blacktop. Base movement is usually caused by a change in the moisture content in the soil. This can be controlled to some extent at time of construction by proper drainage, but never completely.

One of the functions of coatings is to seal the pores in blacktop which tends to be porous. Oddly enough, some cracks will show up *after* an old area has been coated. This is because in making the blacktop impervious to water, the subgrade will eventually become drier and may shrink, thereby transmitting a stress to the asphaltic concrete. Additional coating can be brushed on, if this happens, to seal these cracks.

Final word: blacktop that is more than two or three years old will begin to show signs of aging—it starts turning gray. This graying indicates oxidation and partial removal of the asphalt binder. If it goes unchecked, the surface will start to lose its fine aggregate and then the larger aggregate will be dislodged. Protective coatings should be applied before this occurs. ●

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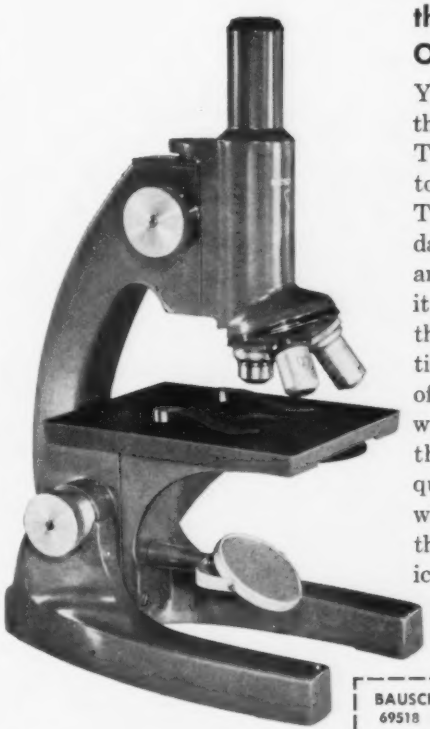

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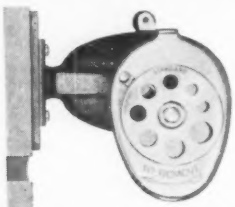

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EXECUTIVE'S BOOKSHELF

WHEN A CITY CLOSES ITS SCHOOLS

By Ernest Q. Campbell. University of North Carolina, Chapel Hill: Institute for Research in Social Science. 195 pp. $1.

We try to use research reports in our research section. But here is one, inclusive though it may be, which is worth reading in full.

Norfolk, Virginia, is the city, and the research team was from the University of North Carolina. The method was interview and questionnaire. The occasion was five months after the Norfolk public junior and senior high schools had been closed rather than accede to token integration.

The report frankly acknowledges the limitations naturally imposed by the necessity for speed in setting up, financing, and carrying through a research study after the closing had been announced. But too little credit is taken for just that promptness.

Perhaps the most significant finding was the degree to which reactions of high school students corresponded with those of adults. Saddening though the spectacle was to all who believe in public education, there is some comfort in the knowledge that, by however narrow a margin, Norfolk came to prefer that its schools be open.

The whole story of attitudes is worth reading and pondering. Wouldn't a return to the scene two years later furnish added valuable data?

KNOWING AND TEACHING THE MIGRANT CHILD

By Elizabeth Sutton. Washington, D.C.: National Education Association. 147 pp. $3.50. Discounts on quantity orders.

Since we published our own report on the migrant child last October we have heard from an amazing number of people within and outside our normal audience. Apparently the concern for our full duty to all America's children is widespread indeed. To those who have the problem in their own districts we commend this book.

Miss Sutton's report on a special project has a minimum of the project itself and a maximum of material which will inform, encourage, and make specific suggestions to teachers, principals, superintendents, and social workers along the path of the agricultural migrants.

The book is beautifully put together and is a great credit to its NEA publishers. More importantly it reflects the high yet practical concern of Howard Dawson and the Rural Education Department for the improvement of educational opportunity for the disadvantaged.

What a really fine teacher-observer - planner - prodder - reporter could learn working with effective and concerned educators in Palm Beach County, Florida, and Northampton County, Virginia, is set forth here in a most helpful form.

EDUCATIONAL TELEVISION GUIDEBOOK

By Philip Lewis. New York: McGraw-Hill Book Company. 238 pp. $6.75

It's common to be skeptical about books published under the sponsorship of manufacturers individually or in concert. Certainly we couldn't reasonably expect "objectivity." But for this book the sponsorship makes sense, and even guarantees usefulness. It is not on the theory or values of educational television.

It is a handy and authoritative guide for beginners and a compendium for the experienced. It describes facilities, processes, and equipment for television from the simplest

in-room closed-circuit to the most complex broadcasting station.

If you are planning for TV, designing the system, selecting equipment and "making it work," this is a valuable resource.

TELEVISION TEACHING TODAY

By Henry H. Cassirer. UNESCO. New York: Columbia University Press — International Documents Service. 267 pp. $3.

Two-thirds of the space, appropriately enough, is given to an overview of the state of television teaching in the United States. But the value of this report is its breadth of coverage.

We are all increasingly interested in education around the world. UNESCO has done us a service in reporting on television teaching in Canada, France, Italy, Japan, the USSR, and the United Kingdom. Mr. Cassirer's conclusions are reasonable summaries of prevailing thought. One would hope for another study which would suggest possibilities for the newly emerging nations.

SOUND LANGUAGE TEACHING—The State of the Art Today

By Holton, King, Mathieu & Pond. New York: University Publishers, Inc. 249 pp. $5.50.

The U.S. Office of Education and several other agencies have published helpful material for language teachers and administrators who are studying ways of improving their language teaching, particularly by use of language laboratories. But this book has a place, particularly in the hands of teachers themselves.

It is a handbook, written by teachers for teachers. Its style is a little self-consciously simple and gay, but it's quite sound and reasonably comprehensive.

PSYCHOLOGY OF THE CHILD IN THE MIDDLE CLASS

By Allison Davis. Pittsburgh, Pa.: University of Pittsburgh Press. 70 pp. $1.85.

The Horace Mann Lectures at Pittsburgh have maintained an unusually high level. Perhaps as a father, a resident of a nearly one-class community, and an educationist, I am unusually interested, but Professor

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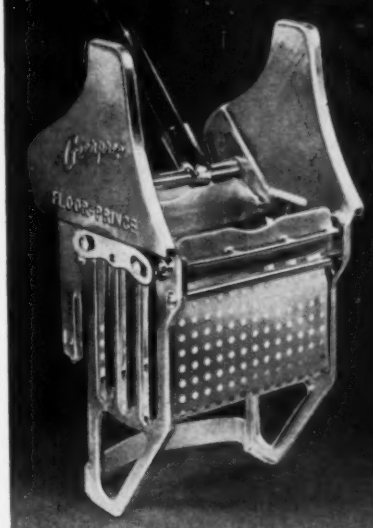

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Bookshelf (continued)

Davis' talk seemed to me informative and informed.

Like most really thoughtful discussions of child psychology, this one has strong overtones of meaning for adulthood. His setting of the problems in the context of status-change is pretty meaningful.

Perhaps we need to learn how to live with children more than how to understand them, but these aren't mutually exclusive needs. The test of Davis' presentation is that it nurtures both understandings and a third as well: how to live with ourselves.

This will fit in the coat pocket, and should. It is recommended reading for those who will welcome another view on problems of growing up.

HISTORY OF EDUCATION QUARTERLY

University of Pittsburgh Press. Subscription rate, $5 annually. Single copy, $2.

Of course this is not a book, but we want to welcome and encourage this new publishing venture which is the official organ of the History of Education Society. Good names and good articles mark this first issue. This is a journal worthy of the support of more than professors in the field.

Memo for Overseas Americans

By Stuart Gerry Brown. Syracuse, N. Y.: Syracuse Press. $1 (quantity discounts).

Discipline—How to Establish and Maintain It

By Robert L. Schain. Valley Stream, N. Y.: Teachers Practical Press, Inc. $1.75.

How to Choose a Nursery School

By Helen Steers Burgess. Number 310. Public Affairs Pamphlets, 22 E. 38 St., New York 16, N. Y. 25¢ (quantity discounts).

A Teacher's Experience with the Electronic Classroom

By Rita Barrows. New York: Dictaphone Corporation.

African Development and Education in Southern Rhodesia

By Franklin Parker. Columbus, Ohio: Ohio State University Press. 165 pp. $1.75. ●

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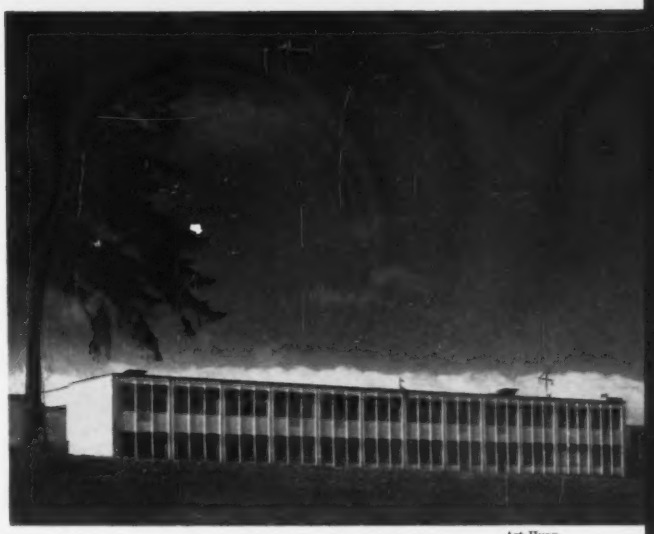
Split-level Junior High

New A. W. Dimmitt Junior High School in King County, Washington, designed with thirty-two classrooms for a capacity of 800 students, is a multi-unit project surrounding a large, open interior court. Architects Mallis & DeHart solved the site problem—fifteen sloping acres—with a split-level design. A two-story wing (shown at right) contains stacked classrooms; floor level of the rest of the project is located halfway between its two floors. Architects report that this economical solution has proved satisfactory in operation. Construction is of masonry and steel frame with aluminum window walls and porcelain enameled insulated panels. Interior partitions are brick and concrete block. Total floor area: 82,000 square feet. Construction cost: $1,482,500.



Art Hupy

PLANT NEWS

Quiet Classrooms on Busy Streets

Site of new P. S. 180 in New York City is a small city block on Manhattan's busy, noisy Upper West Side. Yet Architect Michael Radoslovich has achieved quiet classrooms for its 1,200 pupils. He placed the four-story classroom wing from street to street in the center strip of the block. On one side is the auditorium, on the other are the gym, lunchroom, and offices. The plan leaves free space (rare in New York) for a 4,000-square-foot kindergarten play area and a separate 20,000-square-foot general playground. Construction cost: $2,137,000.

Windowless Training Center

Not maximum security but maximum use of interior space dictated a windowless design for the Missile Airframe and Inertial Guidance Training Center at Sheppard Air Force Base, Texas. Air Force personnel are trained here in operation and repair of propulsion equipment components and ground support equipment for Thor and Atlas weapons systems. The building contains 215,000 square feet of floor area and is divided into three main areas: trainer space, command administration and instructors' areas, and missile bay section. Architects Daniel, Mann, Johnson & Mendenhall designed the interior to accommodate what will obviously be rapidly changing functions by using folding partitions and non-load-bearing interior walls. The windowless design was chosen because it best met the critieria imposed by large and irregularly shaped equipment and by flexibility and performance requirements.

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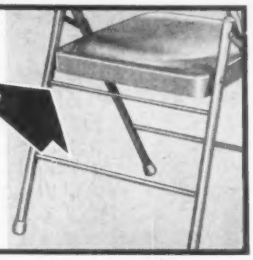

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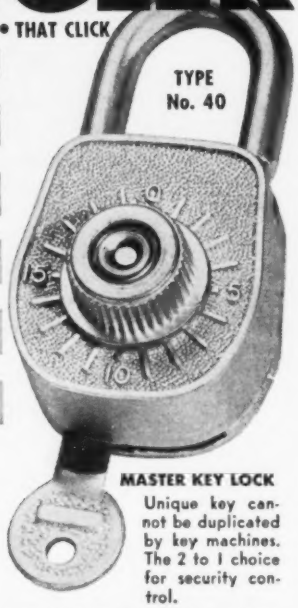

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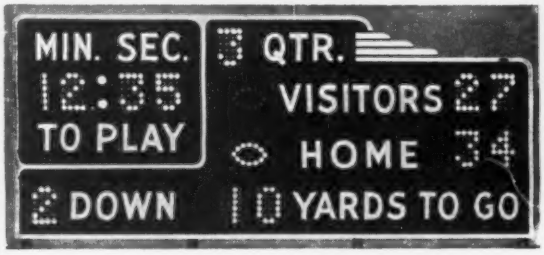

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RESIDENTS OF Sacramento, California, can sample from one of the most appetizing adult education cornucopias: the speakers bureau. They can select the topic and name the date and place—and it's free! Their horn of plenty—everything from lectures on outer space to demonstration-talks on selecting becoming clothes—is the faculty speakers bureau at American River Junior College, a public institution serving a community of 250,000 in suburban Sacramento County.

Faculty participation in the speakers bureau is voluntary. At the start of the school year we send a questionnaire to each instructor and administrator explaining this free community service and asking them to sign up if they are interested. And interested they are: last year fifty-two of our eighty-four staff members agreed to participate, each listing from one to five topics on which he'd be willing to speak.

Once our speakers and topics are lined up we put together a speakers bureau directory. This is a handsome twenty-page, four-by-nine-inch printed (photo offset) job that contains a thumbnail photo of each speaker, his position and his list of topics, plus an alphabetical index to speech subjects ("adolescence" to "vocations").

Copies of the directory are mailed to some 350 groups (service, professional, special-interest, church) that are headquartered in the 240-square miles served by the college. Last year more than 100 of them returned requests for a speaker.

Control of the speakers bureau is the responsibility of our office. Groups requesting a speaker are asked to give two weeks' notice and to list three choices. For the speaker's information, we ask the group to specify the nature of the occasion, expected attendance, composition of audience (men, women, young married, businessmen, etc.), and the time allotted. Plus, of course, the essential facts of time, date, and place.

Our office maintains a master directory which keeps a running tally on the number of talks each speaker has given or has signed up for. It also contains the class schedule of each instructor and notes the evenings that each will *not* be available for a speaking engagement.

Speaking requests are received by our office, confirmed by telephone, and relayed to the staff member requested. We also send a reminder note to each speaker about ten days before his talk.

Topics of the speeches touch on all instructional areas of the college and extend to hobbies and special outside interests as well. A sampling from last year's directory:

"Indians of California—Before the Subdivisions" by an anthropology instructor.

"Family Life as a School Psychologist Sees It" by a counselor.

"What About Inter-Faith Marriages?" by the dean of guidance.

"Prehistoric Cliff Dwellings," a slide-lecture by an instructor of anthropology and psychology.

"America's Stake in the Far East" by the social science chairman.

"How to Keep off the Psychiatrist's Couch" by a counselor.

"What Is Wrong With Local Government" by a political science instructor.

"Evolution of Physics" by a physics instructor.

Even the president of ARJC, Dr. Bill Priest, is included among the speakers. His topics illustrate the range of information available through the bureau: "The Junior College's Role in Higher Education" and "Trout Fishing in California." •

By H. Deon Holt, public information director at American River Junior College, Sacramento, and himself a member of the speakers roster with such topics as "How Did This Get Into Print?"

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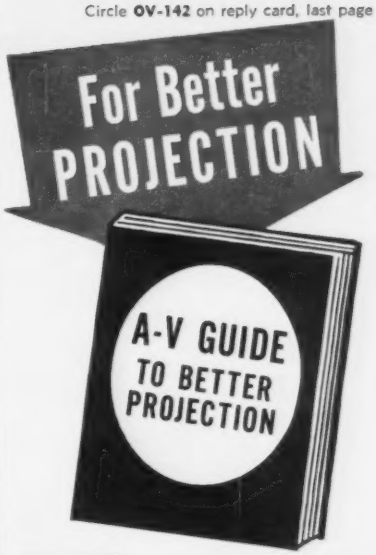

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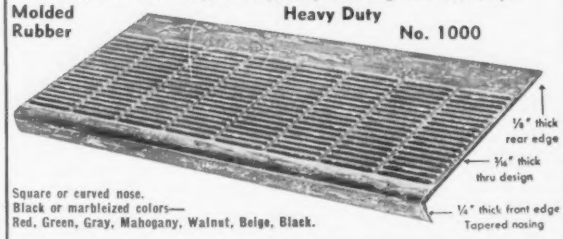

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HEW's Hard Line

Following closely the criticism made by his Commissioner of Education, HEW Secretary Abraham Ribicoff described contemporary American education with such adjectives as "weak," "slovenly," "lax," and "soft." The occasion of this latest blast was the installation of Dr. John R. Everett as chancellor of the country's largest university: City University of New York, with 91,000 full- and part-time students.

Mr. Ribicoff also noted that "facilities are poor and overcrowded," which is an oblique way of supporting the administration's school-aid bill in Congress. For some time there has been speculation that the "hard line" being pursued by HEW vis-a-vis the nation's education efforts is one tactic for shaking Congressional leaders out of their school-aid lethargy.

Dr. Everett, former president of Hollins College, Va., sounded a similar call to return to fundamentals: "In times such as these a dollar wasted on the unnecessary or the frivolous or the obsolete is a dollar spent in aiding the enemies of free, dignified human beings."

Bigger Role for Labor

Worker re-training, one of the key solutions suggested for problems of chronic, or structural unemployment, is getting more attention by the Department of Labor staff. Secretary Arthur Goldberg has established a new Office of Automation and Manpower to study the problems involved. One of its main purposes, said Goldberg, would be to "consider and develop educational and guidance programs to allow workers who may be displaced by automation to find employment without suffering a long period of unemployment."

Other labor news:

With the help of a $20,000 grant from the National Institute of Labor Education, the AFL-CIO is preparing an education program designed for Latin American trade unionists.

During the two-day Washington meeting of the AFL-CIO Department of Education, William F. Schnitzler, AFL-CIO secretary-treasurer, said "the trade union movement never grew in depth, strength, and influence until we were able to carry the message through education."

The New York State legislature passed—and Governor Rockefeller signed—a measure exempting professional teacher organizations from the same financial monitoring that the state exercises over labor unions, under its Labor and Management Improper Practices Act.

Cornucopia

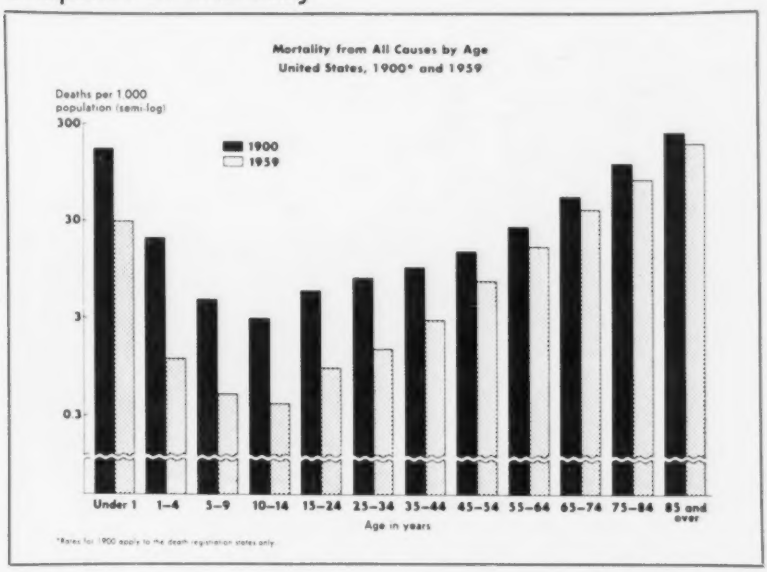
Food buyers for educational institutions can look forward to generally good shopping in coming months.

Young chickens (broilers-fryers) are coming to market in 15 percent greater volume than last year and at prices slightly below those of 1960. There are also 126 million pounds of turkeys in cold storage, 21 million pounds above last year's stock at this time, with little chance of erasing the surplus before the pre-Thanksgiving shipments come in.

Milk flow is currently at seasonal peaks and will probably exceed last year's 122.9 billion pounds of milk and dairy products.

USDA officials note that an additional $2.5 million will be spent by 1963 for school lunches in urban schools, a result of population rises in cities. Looking ahead, USDA also predicts that school lunch will annually account for a billion dollars' worth of food by 1970, compared with the $600 million spent in 1957–58. Close to fifteen million children and their teachers now take advantage of school lunch programs. (One food

Snapshot of Mortality



Since 1900, mortality rate in U. S. has declined 45%—death rate is now 9.4 per 1,000 population. Greatest declines have been among infants and 1–4-year-olds, females, and nonwhites. Lowered mortality rate among adult population will have same effect on adult education and vocational retraining as rising birth rates are having on formal education. Courtesy Health Information Foundation

service equipment maker estimates that 5,000 new school lunchrooms will open each year for the next few years.)

The New Chemistry

High school chemistry may be drastically revised as the result of a project by the Chemical Education Materials Study. The group is composed of high school teachers and college professors under the chairmanship of Glenn T. Seaborg, former chancellor of the University of California and now chairman of the Atomic Energy Commission. Emphasis in "the new chemistry" will be on laboratory experiments and the scientific method.

A trial textbook is currently being used by twenty-four high school teachers with 1,500 students. Revisions are already being made; this fall about a hundred new schools will use it.

The program is designed for the general student who takes chemistry, rather than for the gifted high school student.

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Here They Come

About 102,000 new teachers will be available this month for public and private school recruitment. But, says NEA, another 37,000 who will be eligible to teach will disappear into other fields.

Among the June graduates are approximately 58,000 for high schools and 44,000 for elementary schools, still short of national requirements. However, a 26.5 percent increase in foreign language teachers is encouraging. On the minus side is a 10.1 percent drop in librarians entering the profession.

The NEA report notes that areas of shortages are picking up more recruits. Aside from the foreign language increase, new teachers are drawn into mathematics (18.2 percent) and science (15.9 percent).

Certified Linguists

A new Pennsylvania law makes it possible for non-citizens to be certified public school language teachers. Applicants must take a two-part examination to determine language competence and professional preparation.

Similar steps have been taken by other states in the past two years. Kansas has a review committee to recommend competent language teachers for special certification. West Virginia and Wisconsin allow certification by examination for graduates of any accredited four-year college in their states.

NSF To College

The National Science Foundation, for the first time, will help colleges and universities improve facilities used by undergraduates. The expansion is a result of a 30 percent budget increase—the largest in its ten-year

history—that NSF received in President Kennedy's new budget.

New funds include $5 million specifically set aside for undergraduate programs. Up to now, NSF's work has been limited to refurbishing graduate laboratories and improving high school science facilities.

The Foundation is moving cautiously; much of the initial appropriation will be used to buy demonstration equipment and tools for repair of damaged apparatus. Foundation officials hope this will lead to a more ambitious program of outfitting and modernizing undergraduate laboratory facilities.

Since revisions have already been made in high school science, NSF says it's necessary to upgrade college programs which will receive better-trained high school graduates.

Focus on Adults

A three-year, $225,000 grant for upgrading liberal adult education in the public schools has gone to the National Education Association. In making the grant, the Fund for Adult Education wants special emphasis on local, national, and international affairs and economics and on education for public responsibility.

A big obstacle to effective adult education programs is the lack of full-time professional leadership, the Fund declared. The NEA will use the money for continuous in-service training of individuals responsible for adult education programs.

Carnegie Corporation is financing an independent, two-year study of the role of the university in adult education. Dr. Fred Harvey Harrington, academic vice president at the University of Wisconsin, and Dr. Donald R. McNeil, former director of the state historical society of Wisconsin, will conduct the study.

Audio-visurama

The latest innovations in electronic teaching and audio-visual aids got an enthusiastic nod from more than 3,000 audio-visual specialists, school administrators, and classroom teachers at the annual convention of the NEA's Department of Audio-Visual Instruction. Occupying a prominent position on the program were teaching machines which, it was noted, received only passing mention at DAVI's meeting two years ago.

Audio-visual enthusiasts were cautioned, however, not to get carried away by the technological pitchman. Supt. Forrest Connor of St. Paul called for a reassessment of the new "educational hardware" and the traditional person-to-person contact between the teacher and the student.

Outgoing DAVI president, James Finn, pointed an accusing finger at "entrenched educators" and followers of the "literary tradition" for keeping modern technology on leash. He called most school administrators "inept" in handling modern communication methods. The literary-oriented school administrator supplies books, Finn said, while he spurns the audio-visual breakthrough. •

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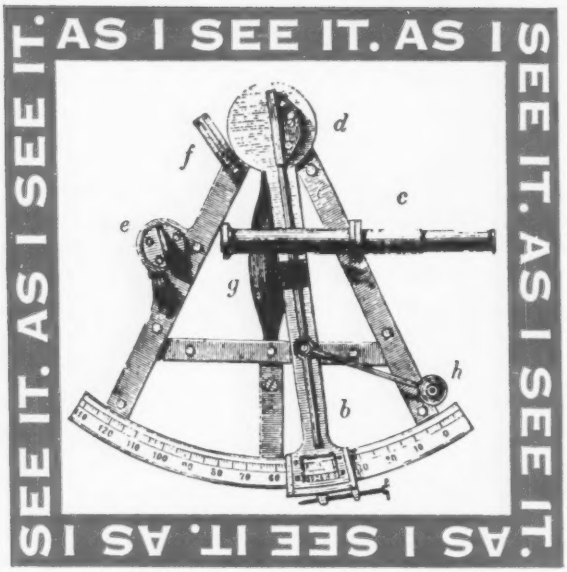


School District Reorganization

Walter D. Cocking comments on the current scene

THERE ARE approximately 40,000 school districts in the United States. It is predicted that in ten years the number will drop to less than 30,000, although enrollments will continue to increase. To people outside of education this sounds like a paradox. But professional educators have come to believe that efficiency can be increased and economies secured through consolidation of many of the small school districts. Indeed, the increase in pupil population is one of the main arguments for consolidation, both in terms of efficiency and economy.

There are other reasons for the growing move toward consolidation, also. With larger enrollments it is easier to provide a broader, better educational program. A larger district can attract a higher quality of professional leadership, and more competent supervisors and teachers. The speed of our transportation and communication has made it easier to administer a large district. And a massive public relations program has conditioned the citizens favorably toward consolidation proposals.

But the rapid rise of the number of district consolidations indicates that there are further advantages. Let us examine these.

Most important, consolidation of small districts into a central unit can step up provisions to care for individual differences. It can attract a more competent staff, better counselling services, more library and audio-visual facilities, and a wider range of educational tools.

Consolidation of districts increases the size of the tax base, although it doesn't necessarily broaden it. Increasing the size of the tax base ordinarily permits increase of revenues without increasing tax effort. There is a subtle phenomenon also: as people enlarge their district they also register a desire for a better program and hence better schools. This almost always accompanies consolidation.

Larger districts demand and frequently get better professional leadership. The more competent administrators seem naturally to gravitate to larger districts where they find a wider scope within which to work. This can be one of the most important single results of consolidation, for competent leadership is essential to top educational performance.

In spite of this rosy picture, are there sacrifices involved in consolidating small districts? The answer is "yes"—unless these difficulties are anticipated and corrected.

Three "disadvantages" of district consolidation become immediately apparent. In small communities the school is the center around which the life of the community revolves. It is a serious blow to their independence, unity, and community life when they lose their local school. It is possible for people to adjust to a larger community, but it is not easy. Strong leadership is required.

Also, the total costs of a large, consolidated school are more than for a small school, even though the financial effort may be the same. Taxpayers require a lot of information and a skillful interpretation of facts to help them see the complete financial picture. When it is forthcoming, the taxpayer is generally convinced that the merits of consolidation will outweigh the difficulties.

But the greatest danger in consolidation is that the policy-makers are more remote from the people than they are in the small district. Unless the school board and the leadership of the consolidated school take pains to unify all sections of the district and actively work to bring about participation and understanding by all the people of the district, something important is lost. The people, all of them, need to feel that the consolidated school is "ours" and not "theirs."

As I see it, the benefits from consolidation far outweigh the shortcomings, real or imagined. Certainly there is every opportunity to provide better educational opportunity and more competent administrators and teachers. And these are the most important elements of a good educational situation. ●

PRODUCT PREVIEW

Teaching Machines: Simple to Complex

Circle OV-401 for more data on all teaching machines described on pages 63-65. For details on specific machines, circle OV numbers following each item.

SCIENCE IN FIRST GRADE

Using experimental models of the Videosonic Teaching Machine, first graders have been taught some of the elements of molecular theory at

UCLA by a device which presents a sequence of slides projected on a viewing screen along with a spoken commentary from a built-in tape recorder. The multiple-choice items presented through pictures and sound are answered by the learner by pressing buttons. The correct button turns on a green light and starts the tape recorder again to provide a verbal reinforcement before the next item is presented. To completion-type questions, the student responds by answering out loud into a microphone. His recorded answer is then played back to him along with the teacher's previously recorded answer. A record is kept of every response the pupil makes. This project is partly supported by a grant from Hughes Aircraft Co., Industrial Systems Div., International Airport Station, P. O. Box 90904, Los Angeles 45, Calif.

Circle **OV-201** on reply card, last page

TEACHING MACHINE PROGRAMS

Encyclopaedia Britannica Films is now engaged in developing programmed learning materials. The following courses are now being prepared: first-year high school algebra, plane geometry, second-year high school algebra, trigonometry—solid geometry, introductory college mathematics, three-year high school language courses in French, Spanish, and German. Temac is the name given to these materials. Encyclopaedia Britannica Films, Programmed Learning Materials, 1150 Wilmette Ave., Wilmette, Ill.

Circle **OV-202** on reply card, last page

TUTOR WITH TEXT

The Atronic Tutor is a portable mechanical, multiple-choice teaching

or testing device which requires neither batteries nor power line energy. It operates by allowing pages in a specially designed text to fall under gravity when the operator selects the correct answer to a question and presses a corresponding button. The Tutor is provided with a resettable counter which indicates the total number of strokes taken by the student in progressing through a book so it is easy to gauge the student's progress. Subject matter is viewed through a transparent cover. Atronic Learning Systems, General Atronics Corp., One Bala Ave., Bala-Cynwyd, Pa.

Circle **OV-203** on reply card, last page

CARD MODEL TEACHING MACHINE

The Visitutor 200 is a card model machine which enables teachers to

program their own material as required.

The machine presents an item of information and solicits an answer. If the student is correct, he advances to the next item. If he is wrong, he must correct himself before advancing.

The instructional items are contained in magazines which hold 40 cards (80 items) with a generous area for illustrations and text. Individual items can be removed, changed or added to at the teacher's discretion. Programs can be used over and over again without mimeographing or reproduction expense. A

separate answer sheet gives the number and nature of errors at any stage in the development of a program. Hamilton Research Assoc., Inc., New Hartford, N. Y.

Circle **OV-204** on reply card, last page

SIMPLE TEACHING DEVICE

The Dyna-Slide Vertimask is a teaching machine reduced to minimum essentials. It has a rigid plastic base and a flexible opaque masking curtain kept in horizontal alignment

by a concealed slider-in-track arrangement. Three notches are provided to engage the rings of a notebook. This simple device does just what the more complicated teaching machines do: it presents a question, allows the student to write his answer, then reveals the correct answer. An added advantage is that neither question size nor answer size is restricted to the size of a fixed window. Pictures and diagrams of almost any shape and size can be used. Programs can be printed or mimeographed on $8\frac{1}{2} \times 11$ paper. Dyna-Slide Co., 600 S. Michigan, Chicago 5, Ill.

Circle **OV-205** on reply card, last page

CONSTRUCTED ANSWER MACHINE

The Didak 501 provides the programmer with the variables necessary for maximum freedom from product

limitation. By permitting the use of additional information or hints to insure the correct answer with a "second attempt" window, the Didak provides a certainty of right-answer reinforcement, yet permits eliminating this feature when it is not desirable. The machine has a "clue" shutter for prompts, reference card holder for external information, positive automatic indexing of each teaching item, three teaching item aperture sizes for flexibility in programming, separate paper transport and answer-space shutter controls, and overload safety feature on drive knobs to prevent damage to internal mechanism. Rheem Califone Corp., 1020 N. LaBrea Ave., Hollywood 38, Calif.

Circle **OV-206** on reply card, last page

DESIGN-YOUR-OWN-PROGRAMS

The Koncept-O-Graph is a simple and inexpensive teaching machine with a large $4'' \times 8''$ window. A knob moves the program past the window

Circle **OV-149** on reply card, last page

FABRI-FORM
school trays...

...your LOW COST answer to classroom storage problems!

Schools everywhere are solving their classroom storage problems *economically* with Fabri-Form school trays. These trays store student's materials INDIVIDUALLY in home economics, kindergarten, science and chemical labs, art or work-shops, and have many other miscellaneous school storage uses.

Our sturdy plastic trays solve your existing storage problems *immediately*—yet are easily adaptable for later incorporation into a more elaborate storage system. Available in six sizes, all with individual label holders. Architects — write us for complete information!

- **Made of sturdy high-impact plastic, with high gloss finish — UNBREAKABLE in normal use**
- **Smooth surface resists soiling — easily cleaned**
- **Lightweight and easy to handle — even by small children**
- **Six sizes with label holders**
- **Beautiful pale tan, grey or green colors**

WRITE FOR DETAILS TODAY!

PLASTICS FABRICATORS

The FABRI-FORM Company, BYESVILLE 4, OHIO

and automatically feeds consecutive pages without interruption. Just snap the machine open and insert the program. The student works at his own speed while the completed pages are retrieved inside the machine for review by the teacher.

The machine handles all programs based on the Skinner approach. This includes single printed sheets, folded strip programs, or the long roll style. A detachable answer unit is included with all sample orders. Working in synchronization with the basic unit, it can be positioned for either right or left handed students, and accepts ordinary rolls of paper tape up to 3½" wide. Koncept-O-Graph Co., Rochester 3, N. Y.

Circle **OV-207** on reply card, last page

TEACHING MACHINE UTILIZES MICROFILM

The MK II provides for selection and projection of individual 35mm, microfilmed TutorText images prepared for individual student training. The machine is basically an automatic, semi-random access film projector. Each reel of film stores 1500 to 5000 frames of instructional ma-

terial, depending on the type of film used. Reels can be easily changed.

To the right of the view screen is a row of 9 selector buttons and one return button. After a lesson or problem-solving situation has been selected by an instructor, the student progresses through the material by pressing the buttons. Each image viewed by the student tells him where to go next.

An extensive Tutor-Film library is available which includes films on electronics, algebra, trigonometry, law, insurance, etc. Western Design & Electronics, Div. of U. S. Industries, Inc., Santa Barbara Airport, Goleta, Calif.

Circle **OV-208** on reply card, last page

LOW-COST TEACHING MACHINE

The Min-Max teaches by means of a set of self-teaching pages, whereby the student progresses in small steps. The student reads the instructions on the page, writes his answer to the questions, then moves the page up to reveal the correct answer. If he is right, he moves ahead. If wrong, he knows just where and why he was wrong. He is able to progress at his own rate of speed.

Teaching Materials Corp., A Div. of Grolier Inc., 575 Lexington Ave., New York 22, New York.

Circle **OV-209** on reply card, last page

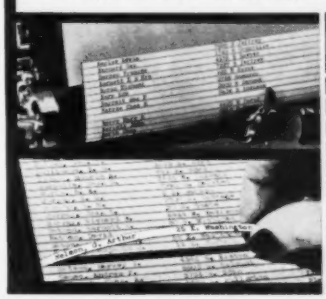
Circle **OV-150** on reply card, last page

Acme Visible Flexoline Indexes Make Student Facts Easy To Find

School's packed—classes humming—but who's who and where? There's an inexpensive way to find out as quick as a glance. Acme Visible Flexoline indexes give you fingertip control of the complete student enrollment—serve as a cross index to home room or class.

There are no cards to re-shuffle- no lists to re-type to keep reference day-to-day perfect. Minimum school office personnel easily handles these portable units with capacities of 350 to 25,000 names.

Write Acme Visible for more facts about the world's fastest reference equipment for educational administration. FREE detailed booklets illustrate various school record systems—one tailored to your needs. MAIL THIS COUPON NOW!



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SCHOOL_____

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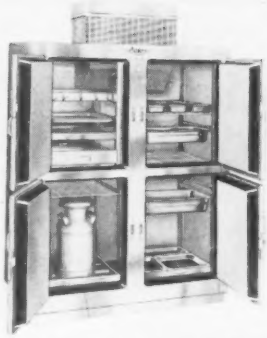
OF GENERAL INTEREST

REFRIGERATOR



Controlled humidity in the Victory V-Line model VS-48-S combats drying out of foods and minimizes wasteful shrinkage. Uniform temperature and air distribution throughout are featured.

Interchangeable interiors can be easily changed in minutes, without tools. Victory V-lines may be equipped with the following: pull-out or stationary shelves, adjustable-type pan slides, pull-out or stationary meat rails, pull-out or fractional pan supports and ball bearing drawers. Victory Metal Mfg. Corp., Plymouth Meeting, Pa.

Circle **OV-210** on reply card, last page

ADHESIVE DOUGH

Holdit is the name of a fascinating new material which holds papers and light objects to any clean, dry surface. The user tears off a small piece of the taffy-like material, kneads and rolls it into a ball, which is then used as an adhesive. Holdit is particularly valuable in schools where it can be used to display school projects of all sorts without marring the walls.

Another plus is that it lasts indefinitely and is easily re-used. Eberhard Faber Pen & Pencil Co., Crestwood, Wilkes-Barre, Pa.

Circle **OV-211** on reply card, last page

SOUND SLIDEFILM PROJECTION PROCESS

The Soundstrip, by Kalart Co., Inc., projects still pictures from a strip of 35 mm film which carries its own sound track. Sound for each

frame of still picture is reproduced from a frame of optically printed sound track. A rotating light beam scans the sound frame, reproducing the sound, while the picture is held and projected on the screen.

The operator has complete control over the presentation. Sound is always synchronized with the picture, thus permitting the operator to spin back for review, skip ahead to eliminate any portion of the film, repeat any frame, or hold a picture for discussion. Kalart Co., Inc., Plainville, Conn.

Circle **OV-212** on reply card, last page

Circle **OV-151** on reply card, last page

What Howell can do in school:

Howell ready for tough schooling at Maryland U...

Final exams for school furniture ruggedness begin the day school opens. That's why the University of Maryland has 1800 Howell stacking chairs on campus. Their handsome tubular steel frames are smartly upholstered with comfortable, durable Naugahyde in a wide range of colors. And Howell self-leveling feet make Maryland floors safe from college leaner-backers. What Howell chairs can do and are doing in schools across the nation has utmost practical meaning for educators and students – and taxpayers.

Write for color folder of complete Howell line

HOWELL

433 S. First Street, St. Charles, Illinois

MELAMINE WARE

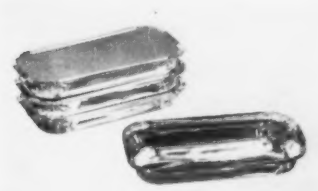
Institutional dining rooms will take on a new elegance with an attractive

pattern in melamine dinnerware—Regal Decorated 500. The pattern comes in cardinal red and royal blue, bordered with gold. Savings of up to 80% can be realized in dinnerware replacement costs with this virtually unbreakable ware. Plastics Mfg. Co., 2700 S. Westmoreland Ave., Dallas.

Circle **OV-213** on reply card, last page

STEAM TABLE FOIL CONTAINERS

The development of the new 3 lb. rigid aluminum foil container by Ekco-Alcoa Containers, Inc., allows school cafeterias to serve hot lunches with greater efficiency and reduced costs. Designed to fit standard steam tables, the disposable container eliminates time-consuming clean-up chores plus the transfer of food from preparation pans to steam table trays.



This aluminum foil container, the Ekco-Alcoa 711, lends itself to quick-freezing and reheating prior to serving, and affords maximum product protection. Since only 3 lbs. of product need be prepared at one time, excellent portion control can be achieved. Ekco-Alcoa Containers, Inc., Wheeling & Hintz Rds., Wheeling, Ill.

Circle **OV-214** on reply card, last page

RESEARCH MICROSCOPE

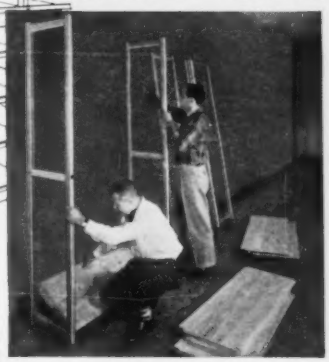
The No. 1801 microscope is especially designed for high school and college use. The heavy arm assures perfect balance, even when the microscope is tilted 90°; a rack stop device prevents slide damage. The nosepiece is of the quadruple type, supplied with achromatic objectives 10x, 43x. Full 14" height. Southern Precision Instrument Co., SPI Building, San Antonio, Tex.

Circle **OV-215** on reply card, last page

Circle **OV-152** on reply card, last page

VERSATILE LUNDIA shelves may be tilted for special purposes. Ideal for display of newspapers and magazines.

prefabricated : adjustable
WOOD STORAGE SHELVING



1 Using common tools, team of inexperienced men erect 448 sq. ft. of prefabricated and adjustable LUNDIA storage shelving in continuous wall run.

2 37 minutes later . . . shelves are loaded with stock. All shelves, regardless of size, hold 500 lb. loads and are adjustable, at 2" intervals, without tools. 48 different combinations of depth, height and width.

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Yes . . . we want a copy of your new LUNDIA catalog and prices!

Name_____ Title_____

Address_____

City_____ State_____

Circle **OV-153** on reply card, last page

PIXMOBILE® AUDIO-ED
LANGUAGE LABORATORY BOOTH

Designed to accommodate all types of electronic equipment of any manufacturer

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- Maximum Strength and Rigidity
- Outstanding Acoustical Control
- Comfort
- Convenience
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PIXMOBILE® QUALITY
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The Pixmobile® Audio-Ed Language Laboratory Booth is designed to provide school systems with flexibility in choosing any type of electronic equipment of any manufacturer. As an educational tool, this furniture was selected by the Wichita Board of Education for one of the largest language laboratory installations in the world. A comparison of features reveals the economy, quality, and long-lasting value of this equipment.

For information and literature, write Dept. O

ADVANCE PRODUCTS CO.
2310 E. DOUGLAS AVE. / WICHITA, KANSAS

PRODUCT LITERATURE

Film Projection in Daylight

"Cine-Educator, A New Milestone in Modern Teaching Methods" describes a daylight rear projection screen which shows brilliant pictures in normally lighted rooms. Write to Busch Film and Equipment Co., 214 S. Hamilton St., Saginaw, Mich.

Circle **OV-301** on reply card, last page

Do-It-Yourself Floor Resurfacer

Six-page folder, illustrated, on new do-it-yourself Myco Tri-Poxy floor resurfacer. Designed for application to concrete, wood, even metal floors. Masury-Young Co., 76 Roland St., Boston 29, Mass.

Circle **OV-302** on reply card, last page

Boiler Selection Made Easy

"How to Select a Boiler" is the name of an interesting booklet which shows you how to get a better buy for your money in a boiler. Cleaver Brooks Co., Milwaukee 12, Wis.

Circle **OV-303** on reply card, last page

Vocational Guidance

"You and Your Career," a booklet, available at $.50 per copy, analyzes 121 careers. Job descriptions; employment trends; qualifications, preparation and entrance requirements; chances for advancement; earnings; and competition in the field are covered. Collier's Encyclopedia, Library and Educational Div., 640 Fifth Ave., New York 19, N. Y.

Circle **OV-304** on reply card, last page

Follow Spotlights

A new brochure, which describes the application of follow spotlights in schools and shows typical installations of this equipment, will be sent free to any reader addressing a request to The Strong Electric Corp., 114 City Park Ave., Toledo 1, Ohio.

Circle **OV-305** on reply card, last page

Electric Ventilation, Heating, Cooling

Application of electric heating to the Comfort Curtain system of classroom heating is the subject of a new brochure recently published by Lennox Industries, Inc. The publication explains how heat pump may be applied to both heating

Circle **OV-154** on reply card, last page

Should you need a PERMANENTLY LEGIBLE SIGN like this GYMNASIUM AUDITORIUM or a PERMANENTLY ATTRACTIVE NAME PLATE like this 304 BIOLOGY or a PLAQUE like this GIRLS or whether it needs TO PROJECT like this OFFICE or this 205 FIFTH GRADE or to REST ON A DESK like this MRS. RACHEL SHARP INFORMATION you should have KNIGHT'S NEW 1961 CATALOG packed with illustrated information about MAINTENANCE-FREE KNIGHTPLATES unequalled for their high readability and modern neat appearance, and available in FIFTEEN COLORS AND WOOD GRAINS.

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☐ Please rush your free 1961 Catalog
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and air conditioning, the application of resistance electrical heating to the Comfort Curtain air distribution method, and the techniques for applying additive cooling. Lennox Industries, Inc., Marshalltown, Iowa.

Circle **OV-306** on reply card, last page

New Concepts in School Design

"Blueprint for Better Schools" is a handsome booklet which presents modern concepts and new ideas relative to school design and construction that should be both interesting and stimulating to architects and school planners. This booklet grew out of a project to discover how lumber, timbers, laminated beams and other wood products could be economically and intelligently used in the design and construction of schools. The results are impressive. National Lumber Manufacturers Assn., 1319 18 St., N.W., Washington 6, D. C.

Circle **OV-307** on reply card, last page

Time Systems

"The Cincinnati Time Systems Handbook" is an illustrated booklet which shows how time systems operate in a well-run school. Specification considerations are delved into and there are typical system wiring diagrams. Cincinnati Time Systems, The Cincinnati Time Recorder Co., Cincinnati, Ohio.

Circle **OV-308** on reply card, last page

Air Diffusers

"Catalog CLD-70" contains helpful selection and performance data on the new CLD air diffuser to be used in combination with air handling troffers. Also included are typical ceiling applications, data on installation and specifications. Anemostat Corp. of America, 10 E. 39 St., New York 16, N. Y.

Circle **OV-309** on reply card, last page

School Science Glassware

"The Science Teacher's Guide to Laboratory Glassware" describes, illustrates and prices 27 laboratory glassware items considered basic tools for secondary school science courses. Corning Glass Works, Corning, N. Y.

Circle **OV-310** on reply card, last page

School Buses

A ten-page booklet, of interest to all bus buyers, tells the basic Wayne story and outlines Wayne's complete school bus engineering, construction, manufacturing and performance picture. Wayne Works Div., Richmond, Ind.

Circle **OV-311** on reply card, last page

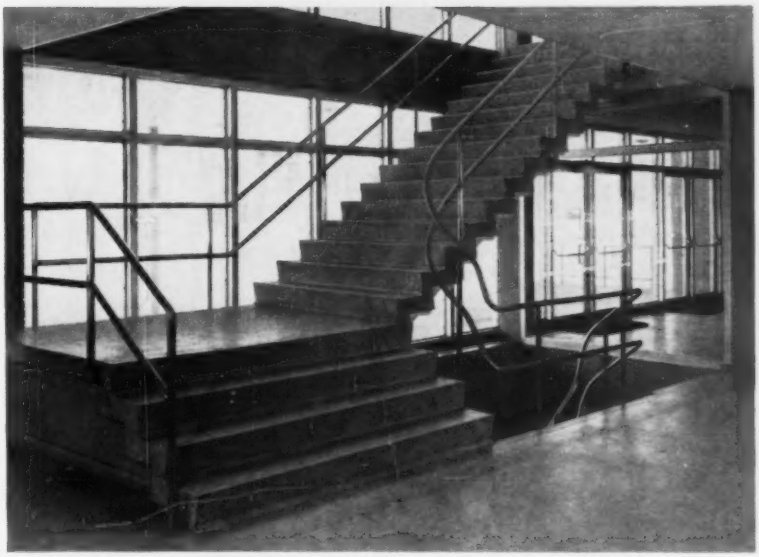
Maintaining Floors

Illustrated bulletin 81.123 describes uses and gives instructions for the proper ap-

Circle **OV-155** on reply card, last page

FOR SCHOOL and COLLEGE BUILDINGS-

ALUNDUM NON-SLIP TERRAZZO



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...provides permanent
WALKING SAFETY!

In all types of public buildings — and particularly in school and college structures where foot traffic is very heavily concentrated — stairways, floors and ramps of Norton ALUNDUM Terrazzo Aggregate provide a rare combination of lasting beauty and permanent **walking safety.**

The use of Norton ALUNDUM Aggregate makes it possible to enjoy the outstanding advantages of terrazzo in many locations where its regular use might not be practical. Used **in the proper proportion,** Norton ALUNDUM Aggregate provides terrazzo walking surfaces, either monolithic or precast, which are permanently non-slip, wet or dry, and exceptionally resistant to wear.

Illustrations show precast treads of Norton ALUNDUM Terrazzo in the Dunbar Vocational School, Chicago, Ill.

Full specifications in Norton Pages in SWEET'S or on request from us or from the National Terrazzo and Mosaic Association, Washington, D. C.

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NON-SLIP FLOORS

ALUNDUM AGGREGATE for Terrazzo and Cement • ALUNDUM STAIR and FLOOR TILE
ALUNDUM and CRYSTOLON Non-slip Abrasives

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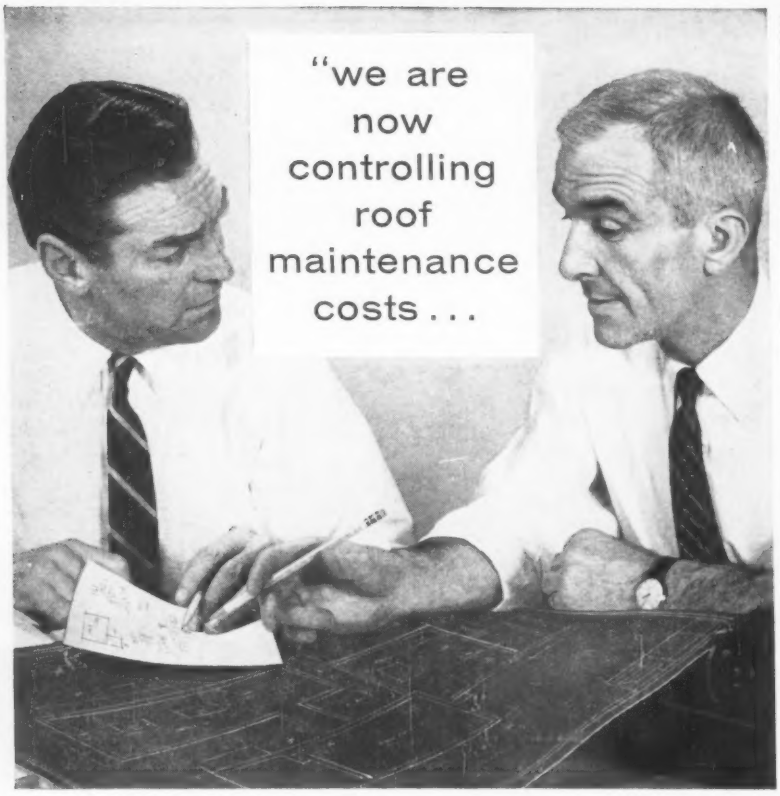

the TREMCO Preventive Roof Maintenance Program *showed us how!"*

Many schools have adopted a new budget-protecting pattern . . . the Tremco Preventive Roof Maintenance Program. It is an accepted plan for the elimination of unnecessary heavy roof repair and emergency replacement costs . . . and the prevention of interior damage to walls, ceilings and floors. These can be budget-wreckers!

Safeguard *your* school buildings and budget with a Tremco Planned Preventive Roof Maintenance Program, tailor-made especially for your requirements, and designed to catch roof troubles before they become expensive. The plan provides a realistically budgeted program to eliminate sudden large expenditures . . . permits efficient use of labor . . . and assures the control and lowering of roof maintenance costs.

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Free methods manual explains tailor-made plan

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ROOFS • FLOORS
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WATER REPELLENTS
SASH

plication of Tennant Self-Polishing Wax, an aqueous emulsion for linoleum, asphalt, vinyl or rubber tile floors. Available from G. H. Tennant Co., 721 N. Lilac Dr., Minneapolis 22, Minn.

Circle **OV-312** on reply card, last page

Flameproof Drapery Fabrics

"The Story Behind Saranspun Drapery Fabrics" offers concise information on Saranspun's fiber content, physical properties, flameproof qualities, flex life and cleaning procedures. National Plastic Products Co., Odenton, Md.

Circle **OV-313** on reply card, last page

Gymnasium, Playground Apparatus

"Porter Playground Equipment," "Porter Basketball Equipment," and "Porter Gymnasium Apparatus" are three new folders showing a comprehensive athletic line. Sturdy, dependable, school products. Porter Athletic Equipment Co., 9555 Irving Park Rd., Schiller Park, Ill.

Circle **OV-314** on reply card, last page

Business Machine Workbook

Comprehensive information for the business student on operation of both 10 key and full keyboard adding machines, instruction on use of the automatic printing calculator. Designed as a self-contained one-semester course. Separate test and score sheets available. $3.00. Victor Adding Machine Co., Business Education Dept., Chicago 18, Ill.

Circle **OV-315** on reply card, last page

Playground Planning Portfolio

Professional landscape designers and architects will want "Planning Playspaces" a portfolio which includes a 32-page sketchbook of play settings, 48 specification sheets and installation scale drawings, and a 32-page catalog of playground equipment and street furnishings. Creative Playthings, Inc., Princeton, N. J.

Circle **OV-316** on reply card, last page

Cheese-Making on Film

"Romance of Cheese" is a 28-minute full-color movie which takes the viewer to Switzerland for the background of Swiss Cheese, and to France, England and Italy for the making of Camembert, Cheddar and Parmesan. Interesting to high school and college groups. Modern Talking Picture Service, Inc., 3 E. 54 St., New York 22, N. Y.

Circle **OV-317** on reply card, last page

World Globe Kit

Anyone can build his own world with the World Glo-Globe hobby kit. Designed with accuracy and careful detail in seven beautiful colors, it becomes a handsome teaching tool when assembled. Tigrett Industries, Jackson, Tenn.

Circle **OV-318** on reply card, last page

Use This Reader Service Card For More Information on Products and Services

The business reply card covers products and services referred to in both advertisements and editorial reviews in this issue. The key (OV number) is found above the advertisement or following the editorial listing in the body of the magazine.

If further information concerning any of these products is desired, it will be sent without charge or obligation. Simply circle the identifying numbers on the back of the business reply card and mail it to us.

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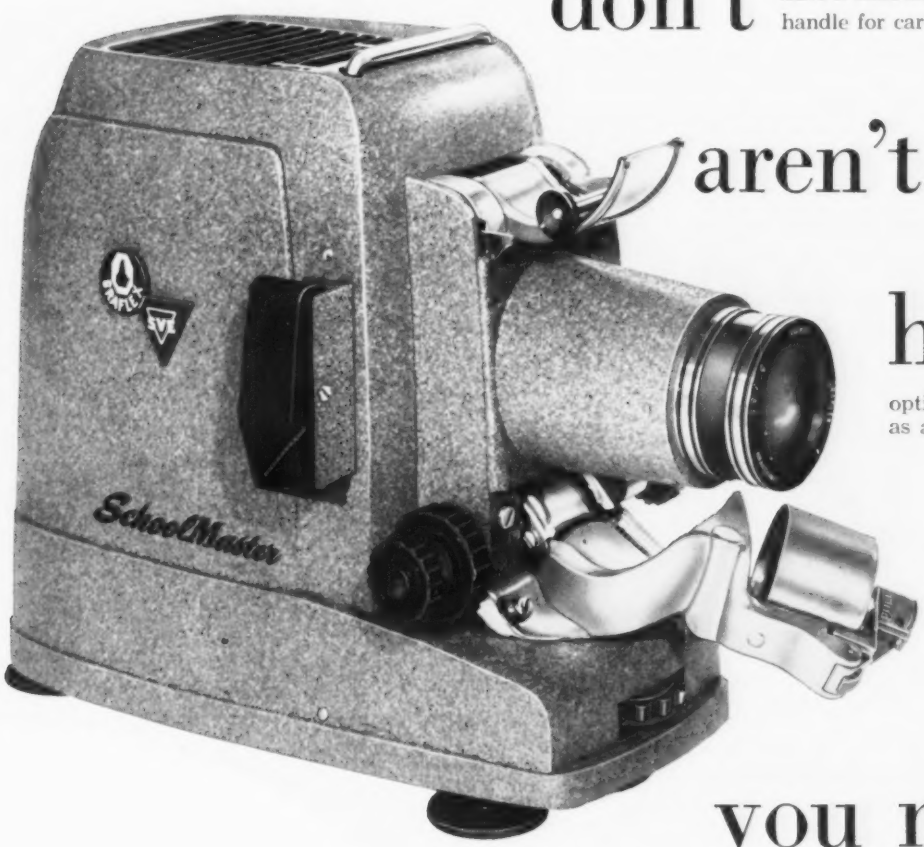
can't give brilliant screen images in partially lighted room . . .

don't have a built-in telescoping handle for carrying . . .

aren't simple enough for your pupils to use . . .



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you need...

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DUAL-PURPOSE FILMSTRIP AND 2 X 2 SLIDE PROJECTORS!

SCHOOL MASTER 500 shown with exclusive accessory Rewind Take-Up and Semi-Automatic Slide Changer. School Masters are also available in 750 watt, manual or remote control models from $84.50

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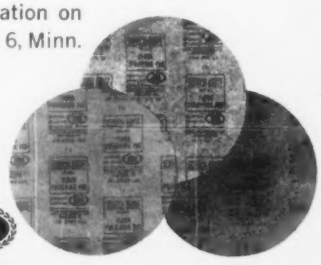
3M System keeps floors so new looking you can hardly believe your eyes . . . . .

Now with 3M's new spray method and "SCOTCH-BRITE" Floor Maintenance Pads you can keep floors new looking week after week after week. This new spray method lets you clean and polish floors in one simple operation. Your floors are kept at a higher level of appearance with less strippings.

The 3M spray method and "SCOTCH-BRITE" Pads can give you dramatically pleasing results on even your heaviest trafficked floor areas. These unique non-woven Nylon pads never splash or rust . . . can be rinsed in water, dried quickly and re-used. Let us show you how regular floor care with "SCOTCH-BRITE" Pads can cut your maintenance costs and improve your floor appearance. For a free demonstration on your floors, write: 3M Co., Dept. ABW-61, 900 Bush Ave., St. Paul 6, Minn.



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